The RUBBER AGE

Published TWICE-A-MONTH at New York

Vol. 21 MAY 10, 1927 No. 3

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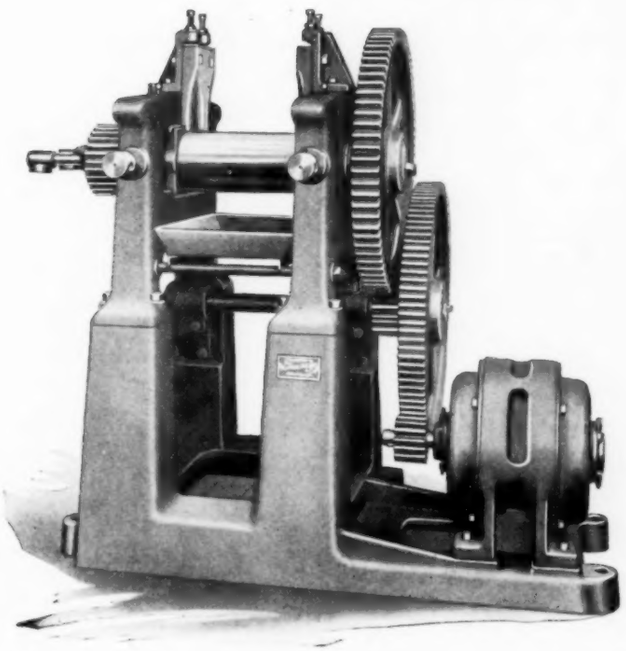

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12′ @ 40 lbs.	3600-800	2015-700
12′ @ 50 lbs.	4185-760	3495-740
6′ @ 60 lbs.	3735-760	3990-750
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30′ @ 5 lbs.	No Cure	No Cure
60′ @ 5 lbs.	Poor Cure	No Cure

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The
RUBBER AGE

The Only Twice-a-Month Rubber Publication

Vol. 21 NEW YORK, MAY 10, 1927 No. 3

RESTRICTION IS BACK TO 60 PER CENT AGAIN

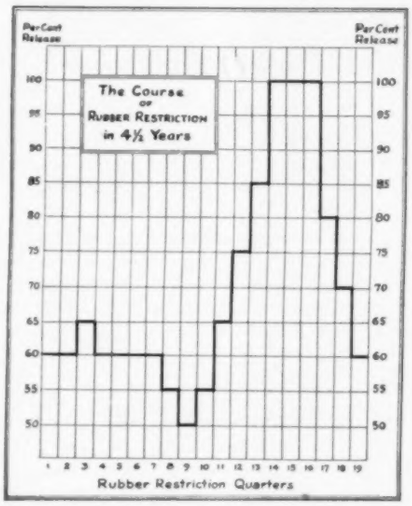
Price Fails to Meet British Demands by Wide Margin and Export Permits Are Reduced Accordingly—Markets Are Almost Entirely Unaffected by the Change.

Due to the failure of the world to pay an average of 21 pence, equivalent to about 42 cents, for its rubber during the three months ending April 30, the British Colonial Office has reduced the exportable percentage of Malaya and Ceylon from 70 per cent to 60 per cent for the May-June-July quarter. This is in accordance with the regulations promulgated last November when the fifth restriction year began. The average London price of ribbed smoked sheet rubber during the quarter just ended was 19.696 pence, or about 39.4 cents instead of the demanded 42 cents.

It happens that 60 per cent, the new level to which restriction has been brought, is the same level from which it started to operate four and one-half years ago. In the intervening fifty-four months the exportable percentage has risen and fallen almost steadily; it stood at 100 per cent for nine months in 1926 which was the nearest the world has come to having a free supply of rubber since 1922.

If the London price of rubber averages below 24 pence (about 48 cents) during May, June and July, there will be no change in the present exportable percentage; if the price should average 24 pence or better, the exportable percentage would be restored to 70 per cent. If it exceeds 21 pence but falls short of 24 pence, no change will be made until such prices have ruled for nine months.

Neither the New York nor the London rubber markets were much affected by the announcement of the tightening restriction. It had been apparent for several weeks that the demanded average would not be met and hence any effect the new condition might have had on the market had been fully discounted. The price of ribbed sheets in London on May 2 was 19⅝ pence; the same grade was



selling in New York for 40½ cents. Prices have showed little or no tendency to firm since that time.

Further reason for the stability of the rubber markets in the face of increased restriction was found in the fact that prospective consumption during the next few months can almost if not quite be taken care of with Malaya and Ceylon on the new 60 per cent basis. Both colonies still have some surplus export coupons which remain from previous quarters when the exportable percentage was much higher. Malaya is believed to have about 8,000 tons of such permits while Ceylon probably has 9,000 tons or more.

The stock situation is also reassuring at the present time. Both in London and the United States, as in the primary markets of Singapore and Penang, rubber stocks are now greater than they have been for years. While they are probably not excessive, they are nevertheless regarded as ample. It is also believed that rubber imports into the United States in April will prove to have been the largest in years. Based on the imports through New York alone, total imports for the month are expected to reach almost 50,000 tons. Rubber consumption in the month is being estimated at not beyond 35,000 tons so that a good-sized addition was probably made to stocks.

FINAL REPORT SHOWS HEAVIER TIRE STOCKS

Rubber Division's Final Statement Shows Stocks Even Heavier Than Was Indicated in the Preliminary Report — Balloon Tires Now More Commonly Held.

Automobile tire dealers in the United States had an average stock on April 1 of 70.6 casings as compared with 63.9 casings on the same date in 1926, according to the final report of the Rubber Division, Department of Commerce, which has just completed its semi-annual survey. Reports were received from 36,865 dealers this year as compared to 32,184 last year and the findings should accordingly be even more representative. However, a smaller percentage of dealers stocking less than 10 casings submitted reports this year which means that the large increase in casings per dealer may be discounted to some extent.

The average inner tube stock this year is almost exactly the same as in 1926. The number of tubes per dealer is reported at 120.9 in the latest statement of the Rubber Division. The number of solid and cushion tires per dealer shows a decrease from 26.9 last year to 24.7.

Balloon tires are much more commonly held than was the case in 1926. Among his stock of casings this year the average dealer has 35.5 casings of the balloon type; last year he had but 21.9.

Dealers were asked this year, as before to indicate whether they handle one, two, three or more makes of tires. This year 47.9 per cent of them replied that they handled only one line. A year ago only 42 per cent were restricting themselves to one line.

Only 16.4 per cent of the dealers who answered a special set of questions indicated that tires constituted the major part of their sales. There were 37½ per cent who said that they sold automobiles, and 73.7 per cent of the dealers were selling gasoline. Replies to other questions indicated that a large percentage of the dealers were making their tire business a side line to battery service and tire repair activities.

RAYMOND SUCCEEDED BY J. D. TEW AT GOODRICH

Ends 30 Year Association with Company—Story of His Appointment—Active Member of Rubber Association—Work Says Plant Is Working at Greater Capacity.

After completing 30 years of service with the B. F. Goodrich Co., of Akron, Howard K. Raymond retired from the board of directors at the annual meeting held April 20. J. D. Tew was elected to succeed Mr. Raymond on the board, while all other directors were re-elected. Stockholders voted to retire 11,800 shares of preferred stock.

Howard Raymond's association with the Goodrich company goes back to the early days of the bicycle business when he was in the coal trade in Brooklyn, N. Y. At that time he was an enthusiastic cyclist and attached himself to the old League of American Wheelmen of which he was an active member. Subsequently he became associated with the Sterling Cycle Works whose plant was purchased by the Thomas B. Jeffery Co., and was later acquired by Nash Motors.

It is told that Mr. Raymond's first connection with Goodrich occurred when the company was manufacturing Palmer tires. He sought out a high official of the company and made him a proposition, naming a salary which in the light of prevailing ideas about salaries, sounded preposterous. The official made this clear to the applicant, and pointed out that the company was not accustomed to paying its executives any such amounts. But Mr. Raymond, gazing out of the window, replied, "From the size of your smokestack, I should say it was time you did." Thus began a connection lasting many years and bringing him into prominence in the trade.

Mr. Raymond has been an active member of the Rubber Association of America and the Motor and Accessory Manufacturer's Association, in both of which he held important posts. He retired some years ago to his estate on Long Island although he continued to retain his place on the Goodrich board.

B. G. Work, president of the company, is quoted as saying at the annual meeting that tire sales in the first quarter exceeded those of the corresponding period in 1926, and that the Akron factory is working at greater capacity than at this time last year. About 12,000 men are employed at present.

Lower Rates on Fabrics

Following the filing of a complaint last fall by the Goodyear and Firestone rubber companies and the Manville-Jenckes Company, tire fabric manufacturers, against the presen freight rates on tire fabrics, an examiner for the Interstate Commerce Commission has formally recommended that the Commission order the railroads to establish a third class rating for these fabrics moving in official classification territory in carloads of not less than 24,000 lbs. It appears certain that the recommendation will be approved and that the new rate will be effective soon. It will mean a saving of about 10 per cent, or thousands of dollars per year to tire manufacturers who receive their fabrics in carload lots.

J. D. TEW

FINAL REPORT ON USE OF RECLAIM DUE MAY 10

The final report on the Department of Commerce's reclaimed rubber survey is due about May 10 or 12, according to the Rubber Division which is in charge of the work. The preliminary report was published in the last issue of THE RUBBER AGE. Since it was given out, several more reports have been received from manufacturers and reclaimers and the final report is expected to be much more complete. The preliminary report showed that 167,000 tons of reclaimed rubber were produced in the United States in 1926 while 149,000 tons were consumed. There were 121 firms, including seven reclaimers, yet to be heard from.

Speaks at Luncheon Meeting

Dr. Sidney M. Cadwell, research chemist of the United States Rubber Company, addressed the weekly luncheon meeting of the American Institute of the City of New York on April 28. After describing the progress of the rubber industry during the last fifty years, particularly through improved chemical processes, the speaker predicted that the structural uses of rubber would be greatly expanded in the next few years. This possibility was attributed to the success which has attended the chemists' efforts to prevent deterioration of vulcanized rubber compounds. The Institute members were also told about developments in sprayed rubber and tire building.

INDUSTRY POSTPONES RAISING TIRE PRICES

Firestone Tire & Rubber Co., Opposed to Increase—Some Manufacturers Hope for Upward Trend in May—Price Rise Depends on Cotton and Rubber Markets.

Rumors of an impending upward revision in tire prices about the first of May, which had been floating around and gathering credence toward the middle of April, were effectually stopped, temporarily at least, by the Firestone Tire & Rubber Co., of Akron, which notified its dealers on April 22 that it found no justification for an increase in the price of tires. The company based its opposition to a price increase on the prices ruling in the crude rubber and cotton markets, which, as long as they remained steady, did not seem to justify any revision of tire prices. The opinion was expressed that well managed rubber companies, without excessive overhead charges, could make fair profits under the prevailing market quotations.

E. B. Germain, president of the Dunlop Tire and Rubber Co., of Buffalo, N. Y., has issued the following statement relative to an increase in tire prices. "I do not anticipate any increase in tire prices as long as the present raw material prices continue. While it is true that prices are close, the industry should be able to make out satisfactorily due to large volume."

The opinion of Firestone and Dunlop is not shared by some other rubber manufacturers who still hope for a price increase soon, although it is generally admitted that the Firestone attitude postpones, for the time being, at least, any jump in tire prices. There is no evidence that the rubber market will rise appreciably in the near future to furnish the justification for a tire price increase which Firestone feels is now lacking. The cotton situation, however, appears more unsettled in view of the Mississippi floods. The market rose from 40 to 60 points between April 20 and 25, but with a cessation in rainfall, quotations fell off somewhat. It does not appear, therefore, that cotton will touch such a high level as to make a tire price increase imperative. At present the whole agitation looks pretty well squelched. If tire prices are scheduled to go up, they probably won't do so for some weeks at least.

As opposed to the apparently stabilized tire prices in the United States, both Firestone and Goodyear have increased prices 10% in Great Britain, due to the import duty recently imposed on tires by the British Government.

Prior Leaves Grasselli

Herbert R. Prior who for many years has been associated with the Grasselli Chemical Co., of New York, resigned May 2 to become a member of H. B. Prior Co., of New York.

PIRELLI BONDS SOLD IN NEW YORK MARKET

J. P. Morgan Floats $4,000,000 Issue for Leading Italian Rubber Company—Will Mature in 25 Years—Pirelli President Describes Broad Subsidiary Organization.

In order to repay bank loans and other short term debts incurred in making additions to its plants and to secure more working capital, the Pirelli Company, leading rubber manufacturers of Italy, have recently sold a $4,000,000 issue of 7% convertible gold bonds on the New York market through J. P. Morgan & Co. The issue will mature in 1952. A cumulative sinking fund will be established to take care of the redemption.

In connection with the flotation, Senator G. B. Pirelli, president of the company, offered the following statement:

"The Pirelli business has been in existence for 56 years under the continuous control of the Pirelli family. The Pirelli Company of Italy owns all the Pirelli plants and business in Italy and a majority of the capital stock of the Pirelli International Company (Brussels), which controls companies selling Pirelli products in France, Belgium, Great Britain, Spain and the Argentine, and operating factories in the two latter countries. The British subsidiary also owns 50% of the capital stock of the Pirelli General Cable Works, Ltd., which operates two cable factories in England, the other one-half interest in this company being owned by the General Electric Company.

"About 50% of the total sales of the group consists of electric cables and wires, about 35% of automobile tires, and the balance of sundry rubber articles. The Pirelli group is one of the largest producers of electric cables in the world and the third largest European producer of automobile tires. Total sales of the group in 1926 amounted to the equivalent, at average exchange rates for the year, of approximately $27,700,000."

According to a recent appraisal by Day & Zimmerman, Inc., New York, real estate, plant and equipment owned by the Pirelli Co., and by Italian subsidiary companies, had a cost of reproduction, less accrued depreciation, of $12,087,230 as of June 30, 1926. The company's consolidated pro forma balance sheet as of December 31, 1926, as prepared by Price, Waterhouse, & Co., and after giving effect to the recent financing, shows total current assets of $20,319,000, total current liabilities of $8,132,906, and net current assets of $12,186,094.

Pirelli dividends have been at the following rates in recent years: 1923, 8½%; 1924, 9%; 1925, 10%; and 1926, 11%.

Fisk Manager at Toledo

W. A. Devins has succeeded W. F. Bray as manager of the Toledo branch of the Fisk Rubber Co., New York. Mr. Devins has been connected with the Fisk company seven years.

BIRMINGHAM EQUIPMENT FOR AUSTRALIAN PLANT

The above photograph shows seven carloads of machinery leaving the Birmingham Iron Foundry, Derby, Conn., for the plant of the Goodyear Tire and Rubber Company in Australia. The total weight of the shipment was 375,000 pounds.

ZINC EXECUTIVES OPEN N. Y. CONSULTING OFFICE

J. A. Singmaster and F. G. Breyer, who resigned their respective positions as general manager of the technical department and chief of research with the New Jersey Zinc Company on May 1, have opened a consulting office in the Graybar Building, New York City. Mr. Singmaster was with the zinc company for 27 years during five years of which he was general superintendent of the plants at Palmerton, N. J. He has been general manager of the technical department since 1917. Mr. Breyer was with the same company for 17 years, first as chief of the testing department and for the last ten years as chief of the research division.

Among the improvements in the manufacture of zinc products which Messrs. Singmaster and Breyer have been responsible is the development of fine particle size zinc oxide for the rubber manufacturer. Their inventions also include light resistant lithopone.

Start New Rubber Factory

The Bradstreet Rubber Co., recently made an application to erect a plant in Huntington Park, a suburban industrial addition to Los Angeles, Calif. It is understood that a permit to operate a rubber factory in this section of Los Angeles is to be granted and that the Bradstreet company will begin building during the present year. The officers of the new company have not been disclosed, nor is it known what kind of rubber products will be manufactured.

A. S. T. M. Meeting

The American Society for Testing Materials will hold its 30th annual meeting June 20-24 at French Lick Springs, French Lick, Ind. The third session, to be held on June 21, will be of interest to the rubber industry. F. S. Conover and H. A. Depew will read a paper entitled "A Study of the Influence of Moisture on Rubber Testing." In addition, two committee reports will be read, committee D-11 reporting on "Rubber Products," and a sectional committee on "Specifications for Rubber-Lined Fire Hose."

New Post for H. E. Sawyer

Homer E. Sawyer, for many years vice-president of the U. S. Rubber Co., was elected to the post of executive vice-president at the Company's organization meeting held April 23. The office of executive vice-president was only recently created.

RUBBER BELTING FIRMS NOT TO JOIN NEW ASS'N

After considerable deliberation, the Mechanical Rubber Goods Division of the Rubber Association has decided to recommend that its members reply unfavorably to the invitation to become members of the Power Transmission Association. This new trade organization, which has headquarters in Philadelphia, has sought to bring into its membership all American companies producing equipment for the transmission of power. A particular fight is contemplated against the increasing use of direct drives as opposed to shafting, pulleys and belting. Several leather belting manufacturers have joined the association but it is doubtful if many rubber belting companies will now do so.

Goodyear Graduates 250

The Goodyear Industrial University recently graduated a class of 250 student employees from the Akron factories of the Goodyear Tire & Rubber Co. The students were enrolled in a course of factory management and graduated with the high honors.

New Mill in Arkansas

Morris & Co., of Groveville, N. J., have established a new cotton mill in Morrilton, Ark. The mill will be operated as the Morrilton Cotton Mill, Inc., and will produce tire fabric, fabric for rubber belting and similar products.

SEIBERLING SALES HEADS CONFER AT AKRON

ANNUAL CONFERENCE OF SEIBERLING BRANCH MANAGERS

FRONT ROW—Left to right: H. R. Karnaghan, manager Boston branch; Wm. S. Wolfe, vice-president in charge of production; C. A. Jones, managing director of Seiberling Rubber Company of Canada, Ltd.; H. L. Post, sales manager; F. A. Seiberling, president of the Seiberling Rubber Company; W. H. Oburn, manager branch operations; W. H. Ector, manager Dallas branch; W. L. Luthy, manager Chicago branch; March Fisher, manager Detroit branch; C. B. Reynolds, manager Portland branch; Frank R. Griffin, advertising manager.

SECOND ROW—H. I. Walters, manager Atlanta branch; H. J. Daly, sales manager of Seiberling Rubber Company of Canada, Ltd.; H. A. King, manufacturers' sales representative; E. J. Rogers, manager Kansas City branch; W. F. Melton, manager St. Louis branch; Howard Lowee, manager Cincinnati branch; C. P. Allen, manager Denver branch; O. H. Wolcott, manager merchandise distribution department; David Burke, manager New York branch; F. C. Searle, manager El Paso branch; J. E. Argus, manager Los Angeles branch; E. F. Graham, branch auditor.

THIRD ROW—F. A. Carlson, manager Minneapolis branch; Willard P. Seiberling, manager accessories and repair materials department; J. L. Cochran, manager Akron branch; C. A. Reed, manager service department; G. N. Kinkaid, Seiberling dealer at Dallas, Texas; Karnaghan Seiberling, manager heel sales.

THE SIXTH annual branch managers' conference of the Seiberling Rubber Company was held at Barberton, Ohio, April 25 and 26. The company at this meeting announced the perfection of a puncture-proof tube, a new department of photography, the instruction of salesmen through motion picture film by the installation of projectors in the offices of branch managers, new tread designs, increases in the sales forces, and an extensive program.

H. L. Post, sales manager of the company, reviewed the sales activity of the Seiberling Rubber Company since its conception, and outlined the plans for the coming twelve months. In commenting on the close cooperation that existed between the company's dealers and the factory, Mr. Post said that against an average of 12 per cent annually for the industry, the proportion of Seiberling dealers who have given up handling Seiberling tires in order to handle some other make of tire is less than 1½ per cent. The company has had a rapid and healthy growth, and in the six years of its existence has grown, he said, from scratch to a position among the first ten leaders in tire manufacture. This was also accomplished during a period of high mortality in its field.

THOMAS RESIGNS FROM WISHNICK-TRUMPEER, INC.

V. G. Thomas has resigned as vice-president of Wishnick-Tumpeer, Inc., New York city, manufacturers and distributors of rubber chemicals and colors. Mr. Thomas was for a number of years in charge of the New York office of L. H. Butcher Co., and joined Wishnick-Tumpeer, Inc., last August when the two firms amalgamated.

Mr. Thomas has been connected with the sale of rubber and paint chemicals and colors for 30 years and has many acquaintances among rubber chemists and purchasing agents. No announcement has been made of Mr. Thomas' future plans, but it is expected that he will take a short rest after which he will resume interest in the distribution of chemicals and colors.

Wilmot at Milville Plant

J. D. Wilmot, who for the past five years has been factory manager of the Boston Rubber Shoe Co., of Boston, a subsidiary of the U. S. Rubber Co., assumed on May 2 the duties of factory manager of the Woonsocket Rubber Co., of Milville, Mass., manufacturers of rubber footwear, and the Milville Mill, also of Milville, Mass. Both of the latter companies are subsidiaries of the U. S. Rubber Co.

L. P. MacMichael

Lucian P. MacMichael, president and director of the firm of L. P. MacMichael Co., Inc., crude rubber dealers, of 2 Stone St., New York, shot and killed himself in his office April 27. The deceased was an affiliated member of the Rubber Association of America and was well known in the rubber industry.

SQUASH TWO GOODYEAR SUITS; DELAY ANOTHER

Two Quo Warranto Suits Dropped in Ohio Courts—Prosecutor Explains Action—Delay on Weiss Stockholders' Action Requested—Three Year Old Case.

Oscar Hunsicker, prosecutor of Summit county, Ohio, has caused the withdrawal of two quo warranto suits before the Ohio Supreme Court which attacked the legality of the Goodyear Tire & Rubber Co.'s management stock. Both suits were originally filed by G. Walter Booth, a former state prosecutor, in behalf of an unnamed stockholder. However, Newton D. Baker, attorney for the Goodyear company, in commenting on the withdrawal of the suits, said:

"The evidence of Mr. Seiberling and others before Judge Killitts in the Federal court of Toledo shows that quo warranto actions in the Supreme Court of Ohio were merely a number of a series of attacks by Mr. Seiberling and his associates upon the Goodyear Tire & Rubber Co., and upon those who were charged by the reorganization plan with the responsibility of carrying out its terms. In other words, the suits were not brought on behalf of the state, but for the convenience of Mr. Seiberling and his associates. They now find it convenient for some reason to dismiss the actions and the present prosecutor of Summit county has acquiesced."

Prosecutor Explains Dismissal

Prosecutor Hunsicker asked that the suits be dismissed without prejudice, and is quoted as saying: "I asked for this dismissal after making a thorough investigation of the case because I felt that the same, or nearly the same remedy could be obtained through the action now pending in the local courts...." The action to which Hunsicker refers is the Tomlinson suit of $15,000,000 against Clarence Dillon and John Sherwin, deposition hearings of which have just been completed in New York. The Tomlinson suit will be opened in the Akron courts May 9.

The three year old Laura T. Weiss stockholders' action against the Goodyear company was asked to be delayed in a motion filed April 16 by D. W. Maxon, an attorney representing the Goodyear Tire & Rubber Co. The action was disposed of more than three years ago by the late Judge W. J. Ahern of Akron in common pleas court, but after a decree was entered by Judge Ahern, some of the stockholders protested against their being bound by the judgment, and asked that the journal entry be corrected. It is the date of these error proceedings in the Weiss case that D. W. Maxon desires to have advanced. The Weiss case raised practically the same issues as to the validity of the Goodyear reorganization in 1921 as are involved in the present Tomlinson suit.

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RUBBER COMPANIES PREDICT BIG YEAR

Record Business Done in Last 3 Months by Almost All Companies—Goodyear Says March Biggest Month in Firm's History—Dunlop Reports Big Sales.

If the amount of business which has been done by nearly all of the rubber companies during the past three months of this year is any indication of what may be expected for the rest of 1927, then this year will be among the most prosperous in the experience of the rubber industry. Most of the rubber manufacturers are, in fact, anticipating a year of unusually high production, basing their forecasts on what has already happened in the first quarter. They point out that the first three months of many years cannot be counted on to yield the largest tire orders, and that peak production frequently does not occur until June or July. Nevertheless, production from January to April this year is equal to the so-called peak production periods of other years. With such impetus, it would appear that the next six months will bring a huge amount of business to the rubber manufacturers making 1927 a record year in the industry.

To bear this out, E. B. Germain, president of the Dunlop Tire and Rubber Co., recently announced that so far in 1927 the number of Dunlop tires sold to dealers has been double the total of a year ago. "Retail sales from dealers to car owners," Mr. Germain said, "are continuing well above last year, and I believe the industry should have the biggest year it has ever had."

The same story comes from the B. F. Goodrich Co., which is said to have earned in the neighborhood of $3.50 a share on its 601,700 shares of no-par common stock outstanding in the first quarter of 1927, or almost the entire year's common dividend requirement at the present $4 annual rate. Sales of automobile tires, tubes and accessories by Goodrich in the first quarter of this year were from 50% to 75% greater than in the corresponding three months of last year.

The Lambert Tire & Rubber Co., Akron, reports the same situation in their plant where the production of tires is rapidly nearing the mark of summer production. Peak production, they say, is expected in June or July and will tax the factory to capacity.

According to the Goodyear Tire & Rubber Co., March was the biggest month in their history with a total production of over 1,500,000 casings and 1,700,000 tubes. P. W. Litchfield, president of the company, is quoted as saying that the unit sales during the past quarter for replacement purposes were more than double those of the same period last year.

GEORGE DAUM LEAVES PENNSYLVANIA RUBBER

After 18 years association with the Pennsylvania Rubber Co., of Jeanette, Pa., George W. Daum, vice-president and general manager, resigned April 13. Mr. Daum came to the Pennsylvania plant in 1909 as head of the cost department. He entered the rubber business in 1900, having first been connected with the B. F. Goodrich Co., in Akron. During the 18 years of his association with the Pennsylvania company he was promoted regularly, becoming eventually second vice-president and assistant general manager. Upon the death of Seneca G. Lewis about three years ago, Mr. Daum became vice-president and general manager.

His resignation came as a surprise and disappointment to the men with whom he had been associated for so many years. His decision to resign was actuated largely by his need of a rest. He expects to retire to his "farm" on Seneca Heights where he is reported to be developing a 32-acre tract of fruit trees and an extended vineyard.

RUBBER FLOORING STILL UNDER BAN IN NEW YORK

Due to a decision of the Supreme Court of the State of New York upholding the New York City Building Department in its ban on rubber, cork and linoleum flooring in buildings over 150 feet in height, rubber flooring and tile manufacturers are still without relief in a situation that is already losing them considerable business. The manufacturers' contention that these materials are floor coverings and not a part of the structure was not recognized as valid.

The case is to be appealed to the Appellate division of the State of New York. Pending further hearings, the manufacturers are making an effort to have definite fire tests prescribed so that the inflammability of rubber flooring can be proven. An amendment to the building code has also been introduced in the Municipal Assembly but immediate action on it cannot be expected.

No effort has as yet been made to have rubber, cork and linoleum floorings removed from tall buildings in which they had been installed before the building department decided to interpret the building code so strictly as is now being done.

Giant Balloons for Dealers

The B. F. Goodrich Company has arranged to furnish its dealers with giant toy balloons to assist them in advertising Goodrich Silvertown tires. The balloons, which bear an advertising legend, inflate to a diameter of about three feet and are sold to the dealers at fifty cents each.

New Exchange Members

The following three new members were admitted to the Rubber Exchange of New York on April 26: Robert Zunz of Fabre, Lovenbach & Co., Paris; E. Chauncey Anderson of Fred B. Peterson & Co., Inc., and H. M. Henderson of Henderson Bros. & Co., Inc., both of New York.

Views Taken in De Mattia Brothers' Modern Plant

What is generally considered one of the most complete and up-to-date machine shops in the rubber industry was recently opened by DeMattia Brothers, Inc., at Clifton, N. J. The new shop and office building is completely fireproof and contains only the most modern machinery for making molds, cores, chucks, tire stands and vulcanizers. Illustrations show (left) the Tool Room Pattern Shop and Light Machinery Dept. on the mezzanine; (center) view showing the main floor and mezzanine at both sides; (right) the experimental dept.

GREY TUBES
RED TUBES

WITH

HERCULES

AND

RED DIAMOND

Our Laboratory has obtained conclusive results with Grey and Red Inner Tube Compounds—using considerable percentages of *HERCULES* in the Grey—and *RED DIAMOND* in the Red.

In conjunction with ANTI-OXIDANTS, both the Grey and Red Compounds have startlingly high tensiles and elongations after two weeks accelerated aging.

HERCULES-The Strongest Dark Reclaim

RED DIAMOND-The Strongest Red

SAMPLES, DATA and COSTS ON REQUEST

U.S. RUBBER RECLAIMING CO. Inc.

100 East 42 St. N.Y. — Factory-Buffalo, N.Y.

44 years Serving the Industry— BUFFALO *Solely as Rubber Reclaimers*

Akron Representative: F. F. Dugan, 617 Second National Bank Building

Warehouses—AKRON, CHICAGO, TRENTON, TORONTO

J. E. HALE TO SPEAK AT S. A. E. SUMMER MEETING

J. E. Hale, engineer of the Firestone Tire & Rubber Co., Akron, will speak at the summer meeting of the Society of Automotive Engineers, French Lick Springs, Ind., on the subject "Pitch, Toe-In and Caster". With regard to this topic the Society's bulletin states:

"The Tire and Rim Association recently sent out a questionnaire to passenger-car manufacturers in regard to the proper amount of pitch, toe-in and caster. The replies indicated perfect disagreement. It is therefore logical to assume that a general discussion of this subject will be of real assistance in bringing out the fundamental relationship of the different factors in front-wheel design, with special reference to front-wheel brakes and balloon tires."

The S. A. E. meetings will be held from May 25 to 28. Mr. Hale will speak on May 26. A large number of those attending the meeting are expected to go on to Indianapolis for the 500-mile automobile race on Memorial Day.

Manager for Premier Co.

Charles Armstrong, whose experience in the rubber industry dates back some 15 years, is now connected with the Premier Rubber Manufacturing Co., of Dayton, O., as manager of sales in Michigan and northern Ohio. Mr. Armstrong was formerly associated with the Falls Tire & Rubber Co., the Star Rubber Co., and the Victor Rubber Co. His present headquarters are in Detroit. The Premier Rubber Manufacturing Co. deals in hard and soft rubber molded automobile parts and molded sundries.

SCHLESENGER TESTIMONY ENDS GOODYEAR HEARING

The testimony of Armin A. Schlesenger of Milwaukee on April 19 ended the depositions in New York for the trial of the $15,000,000 suit of F. C. Tomlinson and other Goodyear stockholders against Clarence Dillon et al, after 4,000 pages had been taken.

It was revealed in testimony that Schlesenger was the person who demanded the $250,000 and a share of the rubber firm's profits above $10,000,000 for Kennedy & Co., of which he was a stockholder. Mr. Schlesenger said that the reason he became a director of Goodyear was that he needed this status better to watch over Kennedy & Co.'s management of the firm. He said he was not dominated by Clarence Dillon.

Unless a postponement is granted defendant's counsel, the trial of the case will begin May 9 before Judge Kenfield in the Ohio Court of Common Pleas in Akron.

SAYS NEW ORLEANS IS LOGICAL RUBBER PORT

In an interview given to the *New Orleans States* of New Orleans, La., on April 13, Harvey S. Firestone, president of the Firestone Tire & Rubber Co., Akron, said: "In the past few years New Orleans has assumed vital importance to our company, for the reason that it is the logical port for Liberia. Whether or not the rubber from Liberia will in the future go back to our Akron plant through New Orleans, I may say that the only thing which would keep it from doing so would be excessive freight rates."

In his interview Mr. Firestone described the possibilities of growing rubber in Liberia and explained the progress his company had made in establishing a plantation there. He said the Firestone company was developing about 1,000,000 acres at an estimated cost of $100 an acre, which included clearing, planting and bringing the rubber trees into bearing. Liberian labor, he is quoted as saying, is the best labor in Africa.

Hood Personnel Changes

Myron R. Stevenson has replaced F. S. Dane as manager of footwear sales at the Hood Rubber Co., Watertown, Mass. It is understood that Mr. Dane will have a position in the treasury department of the company in the future.

CROW BRAND

CARBON BLACK

Manufactured by
The Texas Carbon Industries, Inc.
Breckenridge, Texas

LAMP BLACK

Manufactured by
M. H. Lummerzheim & Cie.
Gand, Belgium

R. W. Greeff & Co., Inc.
64 Water Street New York

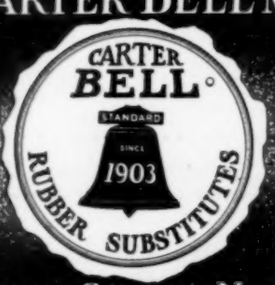
SULPHUR
FOR THE RUBBER TRADE

"TIRE" BRAND SUPERFINE
Rubber Sulphur
"TUBE" BRAND VELVET
Rubber Sulphur

Specify "Tire" and "Tube" Brands on your orders. This will assure you of Stauffer quality and service.

Stauffer Chemical Co.,
Houston Texas
San Francisco, Cal. Chauncey, N. Y.

The CARTER BELL MFG CO



150 Nassau Street New York

RUBBER GROWERS ELECT OEFICERS AT MEETING

Association Comprises 619 Companies and 439 Individuals—Report of Propaganda Committee—New Rubber Uses—Financial Statement.

The annual general meeting of the Rubber Growers' Association was held in London on April 28. Eric Macfadyen, formerly vice-chairman of the council, was elected chairman of the Association for the ensuing year to succeed E. B. Skinner. William Duncan, formerly a member of the council, was elected vice-chairman. Twenty retiring members of the council were also re-elected.

The council reported the membership of the Association to be 1,058, of which 619 are companies and 439 individuals. It was also reported that the total acreage of rubber-growing companies throughout the Middle East who are members of the Rubber Growers' Association, amounted to 1,549,870 acres which represents about one-third of the total acreage of the world's rubber plantations.

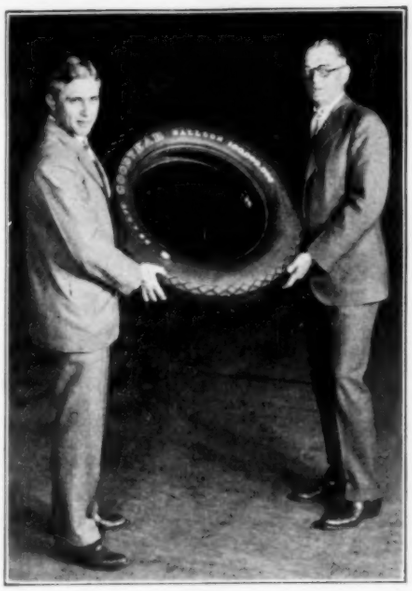
The activities of the propaganda committee in connection with increasing the consumption of rubber formed an interesting part of the council's report. During the past year the committee took an active interest in popularizing the crepe rubber sole, but confined propaganda for this product to participation in trade exhibitions and to subsidisation of the advertisements of individual firms dealing in crepe soles. The Association participated in 11 exhibitions during the past year, among them being the International Shoe and Leather Fair, the International Cycle and Motor Cycle Show, the International Rubber Exposition in Paris, and the Leipzig International Industries Fair. In connection with the more important exhibitions, the Association issued a series of technical booklets, entitled respectively "Rubber and Engineering," "Rubber and Its Uses in Building Work," "Rubber and Footwear," and "Rubber and Textiles."

It developed, in the report of the council at this meeting, that in fostering new uses for rubber the propaganda committee has made several grants of raw rubber and latex to be used for experimental purposes.

The Association had a total income during 1926 of £19,592 (about $97,000) of which £4,761 (about $23,000) was not expended and was accordingly added to the surplus account. This brought the surplus to a total of £21,877, or about $112,000.

The accounts of the propaganda committee, which is supported principally by contributions from governments in the East, are kept separately. During the year £41,859 (about $200,000) was received by the committee, but of this sum a balance of £21,140 remained on December 31. This brought the funds of the committee up to a total of £66,042, or more than $320,000.

No. 100,000,000



Goodyear Factory Officials Are Here Seen Holding the One Hundred Millionth Pneumatic Automobile Tire Produced by their Company. It was Manufactured During the Last Week of April.

TIRE EXPORTS IN MARCH AGAIN SET NEW RECORD

A new record for export shipments of automobile tires from the United States was set in March when 261,000 casings were sent to foreign customers. The average unit value of these casings was $12.47. Casing shipments during the first three months of this year have amounted to 706,000 as compared with 687,000 in the first *five* months of last year. In March there were five markets—United Kingdom, Argentina, Germany, Australia and Brazil—which took more than 15,000 casings each. Future shipments to the United Kingdom will undoubtedly be much smaller in view of the 33⅓ per cent import duty levied on April 12.

The March exports of automobile inner tubes, including shipment to non-contiguous territories, numbered 134,878 with an average value of $2.26. During the same month 11,178 solid tires were exported.

C. F. Beatty Joins Ross

C. Francis Beatty who for nine years has been associated with the New Jersey Zinc Co., of New York, in the sales department and as advertising manager, has joined the staff of the F. C. Ross Co., as an account executive. The Ross company is well known in the paint and varnish circles as the agency directing the "Save the Surface" campaign. Mr. Beatty is a member of the American Zinc Institute and of the Association of National Advertisers.

IMPROVED OUTLOOK FOR MOTOR CAR PRODUCTION

General Motors at Peak of Spring Operations—March Production Exceeds January and February—Industry Behind Last Year's Output.

An improved outlook for better business in the second quarter of the year, and the probability that General Motors will better the gains it made last year, is the underlying reason for the activity on the market April 21 when the common stock of the General Motors Corporation advanced 5¾ points, representing a net increase of $50,025,000 in the market valuation of the company's issue of common stock. The G. M. C. divisions at the end of April were at the peak of spring operations in practically every division.

Statistics covering the production of automobiles for the month of March have recently been issued by the Bureau of Census. These figures reveal a steady increase in production through January, February and March in both passenger cars and trucks. March production approximates the output in September, 1926. The Census figures include Canadian production which has steadily advanced in passenger cars, but declined in truck production. Total passenger car production for march in the U. S. and Canada amounted to 360,754 units, a gain of 85,296 units over February. Truck output totaled 48,590 (including Canadian) representing a gain of 6,643 over February. However, Canada suffered a slight decline in truck production, March figures being 3,534 and February 3,829.

Statistics in both sales and production in the automotive industry in the United States show that the first quarter of 1927 was approximately 12% behind the corresponding period in 1926. A comparison of figures for the first three months of 1925, 1926 and 1927 show the industry to be, from a production standpoint, 174,402 units behind last year and 62,833 ahead of 1925. Attention is now turned to the second quarter of 1927 and from all indications it will show an upward swing.

N. Y. Rubber Co. Mortgaged

The present owners of the New York Rubber Corporation, formerly known as the New York Rubber Co., of Beacon, N. Y., have mortaged the property to secure payment of $100,000 in trust mortgage bonds. The older company was recently reorganized under the new name.

U. S. Rubber Elects

George R. Deshler was elected an additional director of the U. S. Rubber Co., at an annual meeting held April 20. Other directors were re-elected. Deshler, who lives in New Brunswick, N. J., is a son of James Deshler of the U. S. Rubber Co.

NEW IMPORT DUTY WILL FORCE DUNLOP TO BUILD

The heavy import duty recently levied on foreign tires by the British government will cause the Dunlop Rubber Co., Ltd., of England, to expand its production considerably, according to a statement of Sir Eric Geddes who presided at the Dunlop annual meeting on April 13. Imported tires, Sir Eric said, have represented 40 to 50 per cent of the total sales of tires to British motorists, and practically all of this business will now be diverted to the British plants. Since Dunlop is already running at full capacity, the increased home demand will force an extension of facilities. The permanency of the import duty was questioned by the Dunlop chairman who felt that political expediency might cause its removal with any change in the government.

Although various British interests have insisted that the duty will make no difference in retail tire prices, increases are generally expected. The prices of American tires imported by Firestone and Goodyear have already been increased.

Kase Rubber Adds to Force

Moe Kase, president of the Kase Rubber Company, New York, manufacturer of notions and sanitary goods, has announced that six new members have been added to the company's sales force.

The Philadelphia Rubber Works Company

Manufacturer of

RECLAIMED RUBBER

of

STANDARDIZED QUALITY

NEW YORK
52 Vanderbilt Ave.

AKRON, OHIO PHILADELPHIA, PA.
Land Title Bldg.

GOODYEAR TIRES REACH ONE HUNDRED MILLION

During the last week in April the Goodyear Tire & Rubber Co., of Akron, manufactured its one hundred-millionth pneumatic motor vehicle tire, according to P. W. Litchfield, president of the company. This is by far the largest production total ever attained in the rubber industry.

The Goodyear company has been in the tire business since 1898. Although the production of pneumatic motor vehicle tires was started in 1901, the company prior to that time was building carriage and bicycle tires. Over three million solid and cushion tires also turned out by Goodyear are not included in the one hundred million total. The company completed its first million pneumatic tires in 1912, and the fifty million mark was passed early in 1923.

In addition to the Akron factories employing 17,000, the company has two plants in Canada, one in California, and another under construction in Australia; five textile mills, a rubber plantation in the Far East, a cotton plantation, and a coal mine in southern Ohio. These plants have a combined annual payroll of between forty and fifty millions, and a daily capacity of 65,000 pneumatic tires and 75,000 inner tubes. Mr. Litchfield says that his company uses 100,000 bales of cotton yearly and nearly one-seventh of all the crude rubber produced annually or about 50% more than any other manufacturer.

COOPER SALESMEN PLAN BIG SELLING CAMPAIGN

Salesmen representing 14 different branches of the Cooper Corporation of Cincinnati, O., met in the latter city recently to discuss an intensive sales and advertising campaign.

J. F. Schaefer, vice-president and general manager of the Corporation, spoke on plans for 1927 and described the development of the company's new armoured cord construction. I. J. Cooper, president, spoke about the rubber industry in general. Meetings were held in Hotel Gibson.

Receiver for Colony Tire

F. H. Leland, Temporary receiver of the Old Colony Tire Co., of Canton, Mass., has filed in the superior court in Boston a list of creditors of the company totaling claims of $64,673. The majority of these claims are reported to be for Federal taxes and mortgage notes and an inventory of the property.

CATALPO!

BRITISH 1924 RUBBER CENSUS NOW PUBLISHED

The British Board of Trade, which is even slower than the U.S. Census Bureau in the publication of its industrial compilations, has just given out some sections of its report on the 1924 census of the British rubber industry. Although late, this census is of particular significance since it is the first that has been made since the war. The last complete census was that of 1907; the census begun in 1912 was never completed on account of the outbreak of the war.

The total value of the products of the British rubber industry in 1924 was £23,309,000, which is equivalent to about $104,900,000 in American currency at the exchange rate then ruling. In 1907 the total value was £8,908,000, or about $42,500,000. Some of the separate items of the 1924 production are as follows:

Auto- casings, number	1,927,100
M/Cycle casings, number	632,100
Cycle casings, number	5,509,800
Hose, yards	5,258,000
Mechanicals, tons	3,600
Boots & Shoes, dozen pairs	984,900
Heels & Soles, tons	3,600
Rubber proofed garments, number	1,907,500
Other waterproofs, number	271,500

The average number of persons employed in the British rubber industry in 1924 was 46,565, including 39,350 operatives and 7,215 clerks, managers, etc. Of this total 19,771 were female employees.

The value of the products of the American rubber industry in 1924 was approximately $900,000,000, or about nine times as much as the value of similar goods produced in Great Britain in that year.

SAFETY FIRST PRIZES WON BY RUBBER UNITS

In keeping with the campaign conducted by the National Safety Council, the United States Rubber Co., New York, has awarded safety first prizes to two of its subsidiary companies which were most successful in reducing the number of accidents in their factories in 1926. First prize was given to the New York Belting and Packing Co. Passaic, N. J., and second prize went to the Hartford Rubber Works, Hartford, Conn.

Under the leadership of its president, C. B. Wittelsey, the Hartford plant started a campaign against accidents some time ago. During 1926 lost time accidents were reduced 75% under the previous year. In 1925 there were 148 lost time accidents while in 1926 only 38 were reported. Minor accidents reached a total of 4,391 in 1925, but were reduced to 2,457 in 1926. The New York Belting and Packing Co. had to make even a better record, of course, to take first place in the contest.

The prize awarded to the Hartford Company was a painting by Fred Mizen of Chicago, an American painter who for some time has been painting the elaborate and striking posters of the National Safety Council.

Endurance Rubber Formed

The Endurance Rubber Company, 320 Commercial Ave., New Brunswick, N. J., has been incorporated under the laws of New Jersey to manufacture rubber clothing, mats, etc. Authorized capital is $100,000.

FIRESTONE ORGANIZES SUBSIDIARY IN CUBA

J. W. Thomas, vice-president of the Firestone Tire & Rubber Co., and Sam Broers, of the export department, recently returned to Akron from Havana where they completed arrangements for the formation of a subsidiary, the Firestone Tire & Rubber Co. de Cuba. Included in the personnel of the new company is Senor Jose Alvarez Fernandez, who for 25 years has been a Firestone distributor in Cuba.

Under the direction of Senor Fernandez a three-story building is being constructed, which will be used as the headquarters for the new company. G. C. Frankel at the present time is in charge of Firestone sales in Cuba.

IT PAYS TO MICRONIZE

RESISTANCE

ELECTRIC cables of braided fabric were formerly used in mines, mills and factories under more severe conditions than they were made to withstand. Poor service inevitably resulted. Now rubber covered cable has proven best for this purpose. It is unaffected by scraping, dragging and straining or the destructive action of water, oil or acids.

Such rubber covered cable is supreme if compounded with sufficient percentage of

MICRONEX

REG. U.S. PAT. OFF.

The World's Standard Gas Black

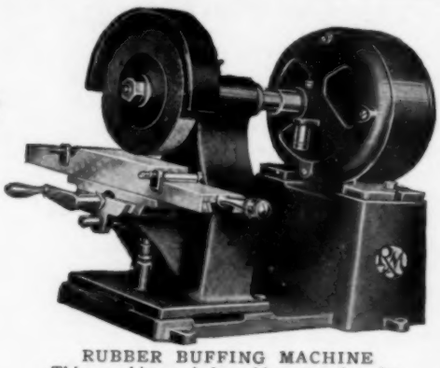
which renders the cable tough and resistant to the greatest possible degree. Our service department will be glad to work with electrical cable manufacturers who wish to incorporate into their products the greatest possible resistance to wear.

Samples and quotations upon request.

Binney & Smith Co.
41 E. 42nd Street-New York City

CATALPO!

Apparatus for the Rubber Factory Laboratory



RUBBER BUFFING MACHINE
This machine grinds rubber samples, for textile strength test, to an absolutely uniform thickness.

EMERSON WATER BATH
With Bierer-Davis Aging Bomb.

BIERER-DAVIS AGING APPARATUS: For oxygen-aging of compounded rubber samples.

RUBBER BUFFING MACHINE: For preparing tensile strength rubber samples of uniform thickness.

EMERSON FUEL CALORIMETER: Indispensable adjunct to the laboratory for checking fuel values.

EMERSON TEXTILE CONDITIONING OVENS— Used in conjunction with breaking tests of fabrics.

Emerson Apparatus Co.

Melrose, - - - Mass.

Aero Brand

AMERICAN CYANAMID COMPANY — AERO BRAND — PRODUCTS

DPG
DIPHENYLGUANIDINE

DOTG
DI-ORTHO-TOLYLGUANIDINE

Aero Brand Accelerators are made from our own air-nitrogen bases. Careful technical control of each step of the manufacturing process assures absolute uniformity of grade at over 99% pure.

Ample stocks of Aero Brand DPG and DOTG are carried at six convenient points.

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535 Fifth Avenue New York, N. Y.

Financial Items

Rubber and Motors

RUBBER EXCHANGE HAS RECORD DAY APRIL 27

The dull trading which has characterized Rubber Exchange activities for some months past was interrupted on April 27 when a New York operator threw his May holdings on the market in heavy volume, buying in July and the more distant positions. This unforeseen transaction threw the market into the greatest activity it had seen since early in December, 1926. The turnover for the day amounted to 599 lots, or 1,497½ long tons. The average trading on previous days had not exceeded 150 lots.

The activity on April 27 was apparently encouraging to buyers who were more in evidence on the following two days. On April 28 buying in distant positions continued with a total of 238 contracts sold, or 595 tons, of which 117 lots were done in the first hour. On the 29th a total of 262 lots, or 655 tons, changed hands but the following date trading was again more listless.

BUYS IOWA CORD TIRE PLANT FOR $47,500

The Iowa Cord Tire Co.'s plant in Des Moines which has been in the hands of a receiver for several months was recently sold for $47,500 to Albert W. Jefferis of Omaha, Neb., and S. W. Lowery of Chicago. Both purchasers have been associated with the Overland Trail Rubber Co., of Omaha, Jefferis holding considerable stock in the company and Lowery having been sales manager.

The property of the Iowa company represents an investment of approximately $200,000, the plant site occupying 32 acres. The new operating company will be known as the Lake Shore Tire & Rubber Co., with W. C. Smith of Omaha as assistant factory manager; A. J. Dooley, of Chicago, general manager of the plant; A. W. Jefferis, Jr., purchasing agent, and W. C. Dailey, construction foreman. It is reported that the new company will produce about 1,000 tires a day. Tires will be made for jobbers under their own brands.

Postpone Rubber Co. Suit

A suit questioning the legality of an election for a board of directors of the Virginia-Carolina Rubber Co., of Richmond, Va., which has been pending in the chancery court of that city, has been postponed for hearing until May 16. The suit arose over the contention of two groups of stockholders, one group, numbering about 167, having conferred power in the hands of three or four members to excercise the right of franchise in voting for a board, one person being elected. The dissenting group has questioned the legality of the election.

Hood Opens Branch

The Hood Rubber Company, Watertown, Mass., has opened a wholesale warehouse at 208 South Water St., Wichita, Kan., to supply the Southwest trade. C. M. Carlton and J. H. McPherson will be in charge.

Waldo, Inc., On Fifth Ave.

E. M. & F. Waldo, Inc., manufacturers and importers of dry colors and black and white pigments have moved from 11 Broadway, New York, to 244 Fifth Avenue. M. J. Simonson is in charge of the new offices.

Consumption of Gasoline

According to statistics issued by the Bureau of Mines, gasoline consumption throughout the United States for the month of March amounted to 22,464,000 barrels, a gain of 4,224,000 barrels over February, and the largest consumption since October, 1926. Total January to March consumption during the current year was 58,592,000 barrels as compared with 52,698,000 barrels in the corresponding period of last year. March, 1926, consumption of gasoline amounted to 19,302,000 showing a gain for March of this year of 3,164,000 barrels.

Late Stock Prices

	Last Price		1927	
	May 3	Apr. 19	High	Low
Ajax	10⅛	11⅝	12⅝	9
Firestone	121	126	128	117
do 6% pfd.	105	105½	105½	101½
do 7% pfd.	100¼	100¾	100¾	98½
Fisk	17¾	18½	18¼	16
do 1st pfd.	87	86½	87⅞	81
General	140	148	150	140
do pfd.	102½	105	105	99¼
Goodrich	56½	57½	58¾	42¾
do pfd.	100	100⅛	103⅛	95
Goodyear Com.	45	—	45⅝	29½
do pr. pfd.	109¾	108½	109¾	104½
do pfd.	109½	—	109½	98½
Hood	—	42	47	42½
India	26	—	30	28
Intercontinental	13⅞	13½	15¾	11½
Kelly Springfield	23⅜	24¾	24¾	9½
do 1st pfd.	—	70	70	44
do 8% pfd.	70½	—	70½	35
Lee	8½	8½	9	7
Miller	34	36	36⅜	32
do pfd.	101¼	102	104	100
Mohawk	—	—	25	15
do pfd.	—	41	65	65
Seiberling	23	22¾	24	21⅜
do pfd.	99	—	100	96
Star	2	—	2	2
U. S. Rubber	57	63⅞	67⅛	57
do pfd.	106	110⅞	111¼	106
U. S. Rubber Reclaiming	—	12	12	12
do pfd.	—	—	87	87

STOCKS SETTLE AS TIRE PRICES ARE UNCHANGED

The postponement of a possible rise in the price of tires due to the Firestone and Dunlop companies failing to concur in the opinion that such an increase was necessary, affected, to a slight degree, the quotations of the stocks of rubber companies listed on the New York Stock Exchange.

Kelly-Springfield common sold on April 20 at 27⅞ but had declined to 23⅜ by May 3; Ajax lost a point and a fraction between April 21 and May 2. Fisk lost two points during the same period, and Intercontinental Rubber lost one point. Lee Rubber dropped approximately a point during this same period.

The Firestone Tire & Rubber Co.'s announcement to its dealers that it did not see any reason for an increase in tire prices occurred on April 22. The effect on the stock prices, which had already discounted the better position in which the advance would have put the rubber companies, became apparent almost at once.

J. E. HAYES ELECTED HEAD OF N. J. ZINC

James E. Hayes has been elected president of the New Jersey Zinc Co., to succeed Edgar Palmer. Mr. Hayes has been with the company since 1910, beginning as general superintendent at Palmerton, Pa. Later he was made general manager and eventually came to New York as vice-president. He is a vice-president and director of a number of companies and is a member of numerous institutions and clubs. He has been succeeded as vice-president of the N. J. Zinc Co., by Frank N. Spencer. Mr. Palmer, whom Mr. Hayes succeeded as president, has been made chairman of the board of directors.

Albert D. Schultz has resigned as secretary of the company and A. P. Cobb, vice-president, is acting secretary. J. A. Singmaster has resigned as technical director, but no successor has been named. E. H. Bunce has been made research director, succeeding F. G. Breyer, resigned.

U. S. Rubber Buys Space

The United States Rubber Co., has purchased for additional quarters a 2-story building with stores at 232 West 58th St., New York City. This building adjoins the company's 20-story building on the southeast corner of Broadway and 58th St., which is almost wholly occupied by the company at the present time.

Used Machinery Page

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New Corporations

Two new companies chartered in Massachusetts and Michigan, and dealing in rubber goods and automobile tires, have been reported. The Circlette Manufacturing Co., Inc., of Worcester, Mass., with a capital of $100,000 is listed as dealing in rubber and knitted goods. The Michigan Super Tire Corporation of Jackson, Mich., with capital of $100,000 is listed as manufacturers of automobile tires.

Rubber Band Factory Busy

One of the busiest of the smaller rubber factories in the Boston section at the present time is the Lubron Company, Tileston and Kelvin Streets, Everett, Mass., manufacurers of ruber bands and specialties. Among the well-known products of this company are the "Knowlton" and "Lubron" packings. De Bert Wakelee, is Treasurer.

New Goodrich Warehouse

A new $25,000 warehouse for the Jacksonville, Fla., branch of the B. F. Goodrich Rubber Co., has been announced. Work on the new structure will begin immediately. B. W. Cotton, who is manager of the southeastern division of the B. F. Goodrich Company, with headquarters at Atlanta, Ga., is supervising the construction of the warehouse.

One-Piece Battery Box

The Ahlbell Battery Container Corporation of Waukegan, Ill., is manufacturing a one-piece battery container molded out of solid rubber with cell compartments and outer box made of one solid block. It is claimed that the container gives thorough protection to the interior parts of the storage battery.

CATALPO!

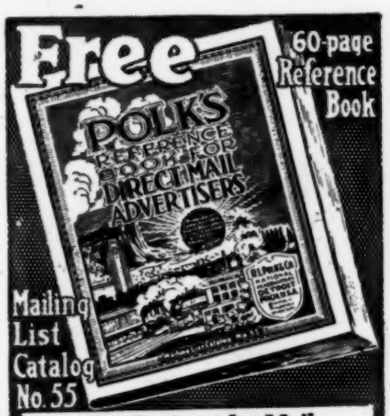
BARBERTON COMPANY IS IN HANDS OF RECEIVER

C. Blake McDowell, Akron attorney, has been appointed receiver for the Rubber Products Co. whose plant is in Barberton, a suburb of Akron. The company manufactured rubber sundries and specialities, and had been operating on a small scale for some weeks during which it was known that financial troubles were being encountered. Assets are said to be about $730,175 in land and buildings while liabilities amount to $456,337.

J. W. Blaser, the vice-president and general manager, died suddenly on the day before the company went into receivership. He had previously been a druggist in Barberton for many years.

Hartol Moves to N. Y.

The Hartol Products Corporation, manufacturers of solvents, has moved from its Newark sales office at 192 Market St., to 117 Liberty St., New York City.



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French Engineer wishes to sell U. S. Patent No. 1,607,291—A Process for Recovering Cotton and Rubber Contained in Old Automobile Tires. Option, one year—$5000 in U. S. A.; Price of Patent for U. S. A.—$50,000. Machines for 1000 Kilos per hour guaranteed, $10,000 (50 H.P.) The cotton is obtained in a flocky state, like cotton wool, free from rubber. The rubber is in a pure, finely powdered state. Apply to: Raymond Marie, 2 Allee du Moulin Joly, Colombes, Seine, France.

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Dividends and Reserves

A FACTOR OF prime importance in the distress of the British rubber planting companies in 1921 and 1922 was the absence of substantial reserves held over from the preceding prosperous years. As is well known, the rubber plantations had handsome earnings before 1921 and might have built up a surplus of such size that a sharp decrease in returns would not have been so painful. It was the habit, however, to pay high dividends which represented practically the entire earnings. These high dividends were naturally forgotten when the lean days came and nothing at all was being paid. The advantages which adequate reserves would have meant in those days were fully apparent.

Within the last two years we have again seen the planting companies able to report high earnings. The striking thing has been that in spite of the lesson of 1921 and 1922, dividends once more closely approximate the earnings and reserves are neglected. It seems that the directors feel that high dividend payments should be the prime consideration. Seven-eighths of the total earnings of a group of companies which have recently reported were allotted to immediate dividends and only one-eighth to reserves. If substantial reserves already existed, this policy would not be surprising, but as a matter of fact, the companies have very little behind them. Now that the opportunity for big reserves is here, it is thrown away, while dividends averaging 25 per cent or more are paid.

This action of the directors is partly understandable. Rubber shares have sold at high prices, especially since the middle of 1925, and to many shareholders a 25 per cent dividend will mean only eight per cent on their investment. Hence, the directors must be under considerable pressure to maintain high dividends to satisfy those who paid a high premium for their shares.

When less favorable times arrive, however, both new and old shareholders will forget the high dividends of the present time and will likewise be without the protection of adequate reserves. The cry of distress will no doubt be as insistent as before, but possibly it will be better understood this time why a long season of prosperity cannot be followed by a short season of low prices without the situation becoming disastrous.

It is a plain fact that the rubber manufacturers would not dare to adopt the same dividend policy as the rubber producers. The year 1926 would have been a sad one indeed in the rubber industry of the United States if huge reserves had not been held over from previous years. The surpluses built up when times are favorable constitute a protection that manufacturers would not dare to forego.

America *is* Producing Her Own Rubber

THE BRITISH Colonial Office has clipped another 10 per cent from the rubber export quotas of Malaya and Ceylon. It is even more worthy of consideration that this cut brings the exportable percentage as low as 60 per cent, or to the point where rubber restriction started four and one-half years ago. Yet the rubber industry in this country received the announcement with a calmness that must be puzzling to many who remember the soaring prices of 1925.

There are of course several reasons why the American manufacturers are unperturbed. They see rather adequate stocks, for instance, and they see also a steadily increasing production outside the British areas. But even more important than these, they see what amounts to a big production of rubber right in the United States, and that is a satisfactory use of reclaimed rubber.

The constant expansion in reclaiming facilities in the United States would be meaningless if serviceable goods could not be made with a high percentage of reclaimed rubber. The truth of the matter is that reclaimed rubber has made good. During the last two years American motorists have used millions of tires in which a large part of the crude rubber had been replaced with reclaimed. The trade has been so extensive that if reclaimed had failed to deliver a dollar's worth of service for every dollar it cost, it would be thrown out by this time. Yet the motorists are coming back for more. There is a market for different grades of tires just as there is a market for different grades of shoes. And in the United States the medium-priced tire market is a big part of the whole, just as is true in the shoe trade or in connection with any other article of popular consumption.

A great deal has been done with reclaimed rubber since 1924. The basic processes have not been changed but reclaimers have in various ways contrived to make their product more agreeable to the rubber compounders. Some of the progress in rubber reclaiming is described in a series of articles now running in this journal. The rubber manufacturers have also adapted themselves to the more extensive use of an old material for which their technical staffs deserve much praise.

Reclaimed rubber as an important ingredient in rubber manufacture really dates from 1925 when the restrictionists over-reached themselves. The chief substitute which the United States was forced to embrace has turned out to have unsuspected possibilities, and it has accordingly been given a permanent place. In effect, America is already producing a good part of her own rubber.

The London Letter

The GENTLEMAN FROM MINCING LANE will report current opinion in London's famous rubber market in every issue of THE RUBBER AGE

This Week the Gentleman Talks About a Rubber Skyscraper

LONDON, April 26, 1927

CONDITIONS IN the London rubber market have not varied much during the past fortnight, but a careful observer might detect a trace of lassitude in those brokers and dealers who have consistently argued on the bull side for months past, and who have seen their prophecies steadily belied by the rapidly increasing total of London stocks. It is quite true that the old arguments concerning reclaimed rubber with consequent earlier tyre replacement and the ultimate influence of the restriction scheme are doggedly reiterated, but one cannot detect the same ring of confident belief that was apparent at the beginning of the year.

Nor is the change to be wondered at, seeing that during this period stocks here have grown from well under 50,000 tons to the skyscraper-like heights of more than 65,000 tons, notwithstanding the gradual reduction in the exportable quota from Malaya and Ceylon. In responsible quarters, the general feeling inclines to the view that surplus supplies here may further increase during the next few weeks to around the 70,000-75,000 ton mark, by which time a turn in the tide is expected.

These present surplus supplies are fortunately not preventing planting companies from planning moderate extensions to their acreages. It would perhaps be in the interest of American manufacturers to note that Dunlop is extending its planted areas by a further 11,500 acres at the earliest possible moment. During 1926 the Dunlop rubber estates, all of which are in Malaya, produced far more rubber than any group of estates in the British Empire. The Dunlop people are evidently quite satisfied to extend their plantation interests in Malaya, rather than undertake any ventures outside the favoured Middle East. This brings me again to the subject of the oft-mentioned American schemes for the development of rubber in such places as Liberia, Bolivia and elsewhere.

YOU ARE probably aware that these schemes—to say the least—are viewed with something approaching scepticism in rubber circles in this country, nor is this surprising in view of the fact that the numerous companies financed by British capital in such zones have so far failed to meet with any degree of success. In fact, by far the bulk of them have long since departed from the active list, but there are just a few undertakings of this type that have managed by various means, mainly by periodical incursions into the pockets of shareholders, to keep alive up to the present time.

It is rather interesting, too, that the reports of two such companies should become available at the present juncture. The first of these is the Anglo-Bolivian Rubber & Trading Company, a concern which was originally formed in 1910 and reconstructed in 1921, and which owns about 639,000 acres in the province of Velasco in Bolivia. The other is the Offin Rubber Plantations, a venture also established as long ago as 1910, with some 20 square miles in Gold Coast, West Africa.

The former company in the year to 30th June, 1926, produced about 100 tons of rubber at a loss of some £9,000, the cost of production working out at something over 2s. (48 cents) per lb., whilst in the case of Offin Rubber the accounts covering operations during 1925 show that in spite of an average selling price of over 3s. 1d. (74 cents) per lb. it is not possible for the concern to make any payment to shareholders. No dividend, indeed, has been paid since the inception of this company. With examples of this sort in the public eye, it is easily understood why faith in rubber ventures outside the established plantation districts is not even lukewarm, and that rubber people on this side prefer either to keep their money in their pockets or to invest it in estates in Malaya, Ceylon, Java, Sumatra, India or Borneo, where they are reasonably sure to get some sort of a run for their money.

IN RECOMMENDING an increase in dividend from 15 per cent to 20 per cent in respect of a period during which occurred the general strike, the coal mining strike, the crisis in the French Exchange, as well as a decline of 29 per cent in the average market value of the main raw material, Sir Eric Geddes, Chairman of the Dunlop Rubber Company, was able to paint a rosy picture of the company's progress in the face of all these adverse, and, it is to be hoped, non-recurring circumstances, at the annual meeting held on the 13th.

Appropriately enough, the meeting followed Winston Churchill's overnight budget speech, so that the Chairman was in a position to dilate upon the fresh prospects opened up as a result of the proposed imposition of a 33⅓ per cent import duty on foreign tyres. This latter announcement resulted in a sharp advance from 28s./- to 32s./- in the Stock Exchange price of Dunlop 6s.8d. shares. However, Sir Eric Geddes apparently is not quite a one-hundred-per-cent optimist regarding the outcome of this development, the "fly in the ointment", so far as he is concerned, being the possibility of the next Chancellor of the Exchequer returning to free trade principles.

Normally, the span of life of the present conservative Government would expire in about eighteen months from now, but a general election may take place at any time before this, and, in the event of the overthrow of the existing Government in favour of, say, the Socialists, the fate of "protection" would hang in the balance, while the success of the Liberal Party would inevitably mean its doom.

Yours Faithfully,
THE GENTLEMAN FROM MINCING LANE.

Will 60 Per Cent Be Enough?

Britain Has Tightened Up Rubber Restriction Again But It May Not Be So Fatal After All

HAVING had rubber restriction with us for fifty-four long months, we find ourselves back on the same basis from which the entire scheme started—60 per cent. Having failed consistently since the first of last November to pay the rubber prices demanded by the British Colonial Office, the exportable quota of Malaya and Ceylon has been cut time after time until the 60 per cent. basis has again been reached.

Fifteen months ago, on February 1, 1926, the newspapers were inaccurately reporting that rubber restriction had been ended. What they really meant to tell was that having been put on a 100% basis, Britain's rubber producing colonies were free to export their entire standard productions. The restriction legislation, however, remained firmly on the books and has now led back to the original 60 per cent. The most important question of the moment, at least to the United States, is what the 60 per cent basis is going to mean to the rubber consumers. Can the world get along fairly comfortable without receiving more than 60 per cent of Britain's rubber, and if not, how soon will it become urgent to have larger releases from those territories?

To take a near view, and to set down a conclusion before proving it, it may be said that the situation presents no particular worries for the May-June-July quarter. It is possible to gauge production possibilities with fair accuracy; consumption estimates may always prove incorrect. At any rate, it is interesting to set down what appear to be reasonable figures to see how they compare.

The present standard production of Malaya and Ceylon is approximately 404,000 tons per year or 101,000 tons per quarter. On a 60 per cent basis, 60,600 tons would be exportable. There is, of course, no doubt of that quantity becoming available.

Unused Coupons Still Outstanding

There are still unused export coupons outstanding in both Malaya and Ceylon. As this is written, the exact tonnage called for by these unused permits is not known. However, it appears that from 5,000 to 8,000 tons of such credits are held in Malaya and probably 9,000 tons or more in Ceylon. Excepting for a certain coupon allowance which must be made on account of the lag in moving the rubber through the dealer's hands, Malaya can be expected to use up all of her surplus coupons in the present quarter. By so doing she will probably contribute another 6,000 tons of rubber for the world's use.

Ceylon's extra coupons carried over from quarters when the exportable percentage was high have been used up only slowly since the exportable percentage has been decreased. On November 1, 1926, 15,000 tons of permits were outstanding; 11,300 tons were still unused on April 1. It is clear that Ceylon's standard production is assessed too high, a factor which some attribute to the dissatisfaction which Ceylon is known to feel with the restriction scheme. It would seem that unless Ceylon's assessment is entirely absurd, there would be good opportunity for her to use a considerable share of her surplus coupons in the current quarter, possibly several thousand tons' worth. But that cannot be counted upon and it would not be wise to expect her extra production in the May-July period to exceed 3,000 tons.

The islands of Singapore and Penang, which are not subject to the restriction scheme under which the balance of Malaya comes, furnish about 6,000 tons per year or 1,500 tons in the quarter.

During the first three months of this year the Dutch East Indies showed an unmistakable ability to furnish more rubber this year than last. The estimate of 210,000 tons for 1927 advanced in this journal some weeks ago still appears sound. A quarterly production of 52,000 tons of dry rubber may accordingly be expected. Some observers in the industry are estimating a total Dutch production this year as high as 220,000 tons (dry), but we may choose the more conservative figure in figuring on the current quarter.

Other plantation areas in the East are expected to produce about 38,000 tons of dry rubber this year. So far this year such areas have been producing at an even greater rate. The tightening of restriction will tend, as always, to strengthen the shipments from these territories, a part of this being due to smuggling from the restricted areas. During the present quarter "Other East" can reasonably be expected to ship 10,000 tons of rubber.

The Americas and Africa are now on an annual rubber-producing basis of about 40,000 tons, a rate which is being steadily maintained. They can be counted upon to produce 10,000 tons in the present quarter.

Bringing these production estimates for various territories into one figure, we find that the world may expect to receive 143,100 tons of rubber in May, June and July. It is believed that there need be no doubt of the ability of any of the areas to deliver the quantity estimated for them.

As usual, consumption is more difficult to estimate. In the first three months of the year the United States consumed 97,796 tons of rubber. This included one big month, which was March. In that month more than 36,000 tons were used. The average of the two previous months was less than 31,000 tons. The monthly average for the quarter was slightly over 32,000 tons. The consumption in the May-June-July quarter is almost sure to show a higher average. The tire factories have been almost as busy in April as in March, and the high production is being maintained in May. What will develop in June and July cannot be foretold. Some slackening in tire production would be natural and expected but it is quite possible that it will not be great. A consumption estimate of 100,000 tons for the quarter should not prove very far astray in either direction.

Outside the United States rubber consumption appears to be proceeding at the rate of about 15,000 tons per month or about 180,000 tons per year. The yearly consumption will not be equally divided between the months, of course, but it is less easy to divide it intelligently than is the case with the United States. Hence, we may estimate that outside the United

Probable Trend of Rubber Production and Consumption in the Next Six Months

	Present Quarter- May, June & July	*Next Quarter-* Aug., Sept. & October
PRODUCTION:		
Malaya and ceylon, based on new coupons	60,600	60,600
Malaya, old coupons	6,000	
Ceylon, old coupons	3,000	3,000
Islands of Singapore and Penang	1,500	1,500
Dutch East Indies	52,000	52,000
Other East	10,000	10,000
Americas and Africa	10,000	10,000
Total	143,100	137,000
CONSUMPTION:		
United States	100,000	96,000
Other Countries	45,000	45,000
Total	145,000	141,000
Withdrawals from Stock	1,900	4,000

States there will be 45,000 tons of rubber used in this quarter. Adding this figure with the 100,000 tons allowed for the United States consumption gives a total of 145,000 as the world's requirements in May, June and July. We have estimated production above as being around 143,100. This would mean that stocks would have to be drawn on during the quarter to the extent of practically 2,000 tons. In other words, production will almost balance consumption in the current quarter in spite of the fact that the largest producing areas will be given license to export no more than 60 per cent of what they could produce.

If stocks were low a reduction of 2,000 tons might be a serious matter. With stocks in their present comfortable condition, it is probable that a small decrease spread over three months would have but little effect on the market. At the end of April, London stocks stood at 67,034 tons as compared with 18,951 a year ago. London stocks are now at their highest point since early 1923 and are not far below the peak stocks which had accumulated before restriction was first imposed. Stocks in Singapore and Penang at the end of March stood at 27,844 tons as compared with 18,389 at the same time last year.

Stocks in the United States are also high. At the end of March the Rubber Association's report showed the stock on hand to amount to 85,740 tons. During April the imports, based on arrivals at New York, were in the neighborhood of 49,000 tons. The resulting addition to stocks in that month should therefore have been at least 13,000 tons, and probably a little more since consumption likely did not exceed 35,000 tons at the most. This would mean a United States stock of around 99,000 tons on May 1. The London and United Stocks taken together, which are really the stocks awaiting consumption, amount to about 166,000 tons. The anticipated world consumption figures out to 48,000 tons per month. Hence, the stocks awaiting consumption amount to not quite 3½ months' supply.

Stock is Not Excessive

It is not suggested that such a stock is excessive or even as adequate as it should be, but it will probably be found sufficient to keep the market steady in the face of a decrease of perhaps 2,000 tons spread over three months. In some quarters the market is expected to firm slowly as stocks begin to recede from their present peak. A price advance of two cents is spoken of. Such an advance would not be sufficient to change the exportable percentage in the August-September-October quarter. An increase of two cents would carry the quotations beyond the 21 pence pivot. However, if the price surpasses 21 pence but is below 24 pence (roughly 42 cents and 48 cents), then nine months must pass before the exportable percentage is increased to 70 per cent once more. Should the average for one quarter exceed the 24 pence level, the additional 10 per cent release would be made immediately. Since there appears to be no possibility that the price will run up to such a level in the next three months, it is almost a certainty that the exportable percentage in the August-September-October quarter will be the same as at the present time.

Without a change in the exportable percentage, the production which may be expected in the August-September-October quarter will be unchanged except that the shipments based on unused coupons will have largely disappeared. Malaya will likely have used up practically all the surplus coupons now held. Ceylon will still have some coupons outstanding, no doubt, but her ability to make use of any large quantity of them in any three months may reasonably be questioned. If we count on only 3,000 tons of rubber coming out on unused coupons during the August-September-October quarter and estimate the production otherwise the same as in the current quarter, world production in those three months would be about 137,000 tons.

Consumption in the United States in August, September and October can hardly be expected to equal the current quarter. Late summer consumption is not infrequently large, but October usually sees a decline. If 96,000 tons were used in the United States in the three months and 45,000 taken as the outside consumption, the world demand would be 141,000 tons. This exceeds the anticipated production by 4,000 tons, a deficit which would be taken from stocks. It is difficult to see that withdrawals will have to be any more rapid than this.

With Malaya on a 60 per cent basis, rubber smuggling is sure to flourish again. In fact, it is already doing so. Numerous captures of smugglers have been reported recently. Admittedly the situation is a difficult one to control and while the vigilance of the guards is frequently rewarded, it is an open fact that there are scores of smugglers who are not apprehended. Influential interests are suspected of backing this illegal traffic. The fact is that so long as the degree of restriction is severe the world can expect to receive many hundreds of tons of rubber for which the planters had no export permits. Shipments from Siam and certain Dutch East Indian islands will show the effects of the smuggling, but this factor cannot be estimated sufficiently close to warrant taking it into consideration when balancing the probable production and consumption.

If the above deductions prove approximately correct, we will reach November 1, which is the beginning of the new restriction year; without having felt any serious effects of the British having tightened up restriction to 60 per cent. Apparently any important decrease in stocks will be achieved only by their hanging on grimly for a long time to the policy which they have adopted. Whether the planters will remain content throughout such an extended period is problematical. They have been assured by the chairmen of many of the planting companies that tightening of restriction will mean such an increase in price that they will find it just as profitable to sell the smaller quantity. That view will likely prove to have been too optimistic.

Some revision of the restriction policy is expected on November 1, the present regulations having been announced at that time last year with the statement that they would be effective for one year. Just how it will be changed is not clear. From May 1 to November 1, the British will have had a chance to try out six months of 60 per cent exports. If that trial proves that their price control is not all they think it is, some drastic revision might be expected. The shrewd Dutch, the rubber reclaimers and the tire manufacturers have so changed the situation that an entire reversal of policy might prove to be necessary.

R. S. L. Rubber Colors

The Rubber Service Laboratories Co., Akron, are offering to the rubber trade a very complete line of organic colors. These have been developed over a period of years, especially for use in rubber goods. As new colors are brought out, they are tested in rubber compounds in the exact manner they are intended to be used. Particular attention is paid to fastness to open and hot air cure, mold cure, acid cure, sunlight as well as resistance to bleeding. All of these rubber colors are organic dyes made from selected coal tar intermediates. They are precipitated in an extremely fine state of division and have a uniform particle size. They are strained through fine wire cloth, insuring the absence of foreign matters. The colors are also of low specific gravity, have great coloring power and are uniform in every respect.

Rubber Adhesive Patent

Rubber adhesives are made from rubber by converting it into less chemically unsaturated derivatives of a tough balata-like nature. This is done by mixing para phenolsulphonic acid with rubber on a heated mill, then heating in an oven for four to ten hours at a temperature of 120 to 145 degrees C and then working on a warm mill to homogenize the rubber and finally washing out the excess reagent and impurities. The balata-like product can then be mixed with adol alpha naphthylamine, benzidine and tung oil to make a suitable adhesive. British Patent No. 247,136.

Hard Rubber in the Preparation of Food Products

Acids in Fruit Juices and Vinegar Products Corrode Metal Equipment; Hard Rubber Found to be Acid-Proof

THE DEMAND for food products prepared for the retail trade in cans, jars, bottles and other glass containers, is constantly growing. It has been said that the art of home-cooking is rapidly disappearing and in its stead we have the corner delicatessen store where one can quickly and cheaply buy nearly every kind of food, already fully cooked

Vinegar Filter of Hard Rubber

or preserved, which our grandmothers before us labored hours and even days to prepare. This increasing consumption on the part of the public, of prepared foods leads one to question just how this industry manages to produce its products on such a large scale and what machinery is employed to bring this about.

Many foods and fruit juices, as we know, contain acids which, when they come in contact with iron kettles, result in the formation of iron salts. These salts, coming in contact with certain chemical elements in foods, cause the food to turn black. Undoubtedly many women have in the course of their preparation of apple butter, strawberry or raspberry jelly, witnessed this phenomenon. It is only one of the chemical problems that have faced the manufacturers of prepared foods. Efforts have been made by them to select acid-proof equipment which would cause no chemical change in the foods being prepared.

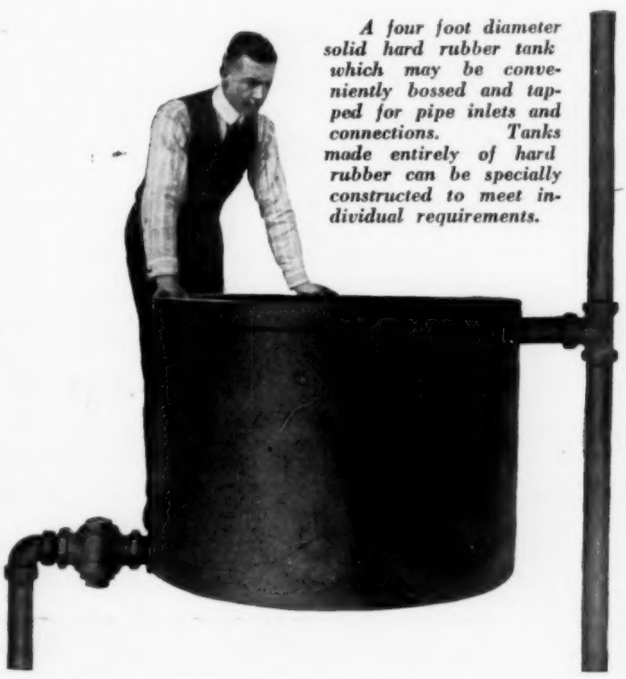
Acids in fruits are common, and invariably attack metals strongly. Some of the fruits containing acids unsympathetic to metals are apples (which contain malic acid), cherries, apricots and peaches; oranges, strawberries, raspberries, currants, blackberries, cranberries, huckleberries, gooseberries and tomatoes (containing citric acid), while grapes contain tartaric acid. When these fruits are prepared in concentrated form as in fruit juices, syrups, jellies and jams the acids are more virulent than when unconcentrated. One may remember some years ago the "brassy" taste often present in certain prepared juices and jellies. This taste was caused by the use in factories of copper kettles for preparing foods, and was eliminated after it was objected to by food inspection authorities.

Vinegar and vinegar-containing products, such as pickles, chili sauce, prepared mustard, catsup, and salad-dressings, are particularly susceptible to metals. Various tests have been made in which it has been found that certain metallic contaminations where vinegar was concerned, would be quite serious to the human system. Vinegar contains from 4 to 12% acetic acid, an acid having strong corrosive and dissolving action on various metals. Thus if any vinegar came into contact with lead piping, there would be formed the very poisonous acetate of lead, sometimes called "sugar of lead."

It can be seen, therefore, that the manufacturers of food products have been confronted with the problem of finding some genuine acid-proof material that would not be too expensive and yet still be practical. Glass has been found to be acid-proof, but since it is easily broken and cracked it is not very practical. Enamel-lined tanks have been employed, but the enamel is always liable to chip off, exposing the iron surface beneath. Stoneware, when really acid-proof, is thick and clumsy and heavy, and not capable of being fitted together in a leak-proof condition without the use of lead, a metal which is out of the question in a food product factory. Wooden tanks are more or less satisfactory, but wooden piping is clumsy, hard to make leak-proof at joints, and affords numerous footholds for bacterial and fungi growths.

Only one positively acid-proof material has been found that

[Concluded on Page 136]



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The Use of Vulcanized Latex

Direct Use of Latex by Vulcanization Before Coagulation Is Now Commanding the Interest of A Big American Company

THE RECENT announcement that the United States Rubber Company of New York and Vultex, Ltd., of London have reached an agreement concerning the use of patents on vulcanized latex processes immediately increases the interest of Americans in this new development. Although the direct use of latex has commanded much attention in the last two years, the subject has scarcely gotten beyond the laboratory stage. Within the next ten years, many qualified people believe, such use will be playing an important part in the daily production of many different kinds of rubber goods.

In the last issue of this journal there appeared two articles dealing with the anode process, or electrodeposition of rubber. An expanding use of this process appears to be in prospect. The Vultex process is already being used in England for the production of rubber goods sold under the trade-mark "Vulpro." These are principally sheet rubber goods.

The process used by Vultex, Ltd., was discovered by Dr. Philip Schidrowitz, whose eminent place in rubber chemistry is well recognized. In the course of some latex work in 1921 he found that it was not only possible but perfectly practicable to convert the crude rubber in latex into vulcanized rubber without any apparent or marked external appearance or change taking place in the liquid. That is to say, coagulation does not occur, and the color, viscosity, and general characteristics of the liquid are such that it might, by visual examination, be mistaken for ordinary, raw latex. On evaporation of the fluid, however, *a film of vulcanized rubber remains.* This film varies in cure according to the vulcanizing conditions—time, heat, curing agents, etc.

In connection with his visit to the United States last September Dr. Schidrowitz prepared a paper dealing with the history of the direct use of latex since the time the South American natives used it in producing crude, unvulcanized footwear and waterproof garments. This paper was read before the annual meeting of the Rubber Division of the American Chemical Society. The following paragraphs about the Vultex process, regarding which Dr. Schidrowitz, as its inventor, is most qualified to speak, are abstracted from that paper:

Dr. Schidrowitz's Statement

The methods of latex vulcanization and the vulcanizing agents and conditions have already been described at length in the literature. It will be sufficient, therefore, to say that (1) as regards curing agents, either sulphur (flowers, precipitated or colloidal) or sulphides (Polysulphides) can be employed—the first trials, as a matter of fact, were carried out with polysulphides—and (2) as regards conditions, either the ordinary "hot" methods (heating in a pressure vessel) may be used or vulcanization can be carried out at atmospheric pressure and at a temperature at or below that of boiling water. It was found that by using suitable accelerators and activating conditions full vulcanization could be attained in less than 24 hours at a temperature not exceeding 40 deg. to 50 deg. F., and more quickly, of course, at higher temperatures.

Vulcanized latex is a colloidal suspension (or emulsion, according to whichever theory as to the nature of latex is preferred) of vulcanized rubber in which latex serum is the dispersion medium. It is a curious fact that the Brownian movement is slightly more rapid than in the crude latex from which the vulcanized product is derived. Hauser has studied the visible changes which occur during vulcanization, but as his work has been widely quoted, it will suffice merely to mention it at this time. The stability of vulcanized latex is certainly not less than that of well-preserved raw latex; specimens preserved for more than a year have shown no sign of coagulation, and rubber made from several aged batches showed no marked abnormality. It stands transportation well, and can be readily produced from fresh latex on the plantation or from properly preserved, exported material. Preservatives, colouring matters, pigments and fillers may be added up to very high proportions, provided (as is also the case with raw latex) that certain facts as to the nature of the fillers (electrical charge, water absorption, etc.) are borne in mind, and the necessary precautions in this regard are taken. Mixings of the character indicated are not laboratory curiosities, but are available for technical operations.

It will be fairly obvious that vulcanized latex can be applied to practically all the uses mentioned under the section of recent developments, with the added advantage that no subsequent operation of vulcanization is required. This advantage, as will be gathered from what follows, has a wider bearing than would at first appear.

Pre-vulcanization of Latex has Advantages

It would be out of place here to discuss the comparative merits of latex and dry rubber for proofing tyre cords or fabrics. Assuming, however, that it is desired to use latex for this purpose, if we use raw latex we must rely for the cure of the raw latex rubber in the type either on sulphur suspended in the fluid or on the "wandering" or diffusion of sulphur from the skin or friction coat into the latex rubber. In either case we are confronted (a) by the difficulties inherent in controlling these factors, and (b) by the variability of latex as regards cure. These difficulties vanish if we pre-vulcanize or semi-cure the latex. We are, in effect, controlling a vulcanizing operation which is of a simple character (readily modifiable by a trial operation) instead of one which is of a complex nature. We ran no risk, in any case, of spoiling the tyre as such, as for the actual operations of soaking or spreading of cord, adhesion to fibres, and so on, there is no substantial difference between raw or vulcanized latex.

Vulcanized latex lends itself particularly well to the manufacture of sheet rubber, either for high-grade lines such as those now made from "cut sheet" (pouches, dental dam, surgicals), or from compounded sheet such as is used in making what may be broadly called draper's goods—namely, aprons, caps, baby's knickers, waders, and the like. As a result of its strength, durability and lack of odor, on the one hand, and ease and economy in manufacture on the other hand, certain new lines have been evolved, such as surgical dressing (very thin sheet replacing gutta-percha tissue or oiled silk) sheet, strap rubber sheet, very thin sheet for artificial flowers and high-grade dress fabrics.

The special features of proofing with vulcanized latex may be summarized as follows:

(1) Superior quality (strength and durability, lack of odor) of latex rubber (no coagulation, no mastication, etc.). (2) Control of vulcanization prior to proofing. (3) The process has no influence on the strength and durability of the fabric to which it is applied—absence of solvents, no deterioration due to heat, sulphur compounds, etc. (4) The goods cannot be spoiled as a result of the curing process. (5) The use of solvents is eliminated.

If raw latex presents special advantages over rubber solution for dipping work, it is obvious that vulcanized latex is particularly adapted to this branch of manufacture. Ease and economy in manufacture coupled with strength and durability of the articles produced are again the noticeable features. The lack of odor (owing to the avoidance of the use of solvents) is not only a commercial advantage, but an attraction to the workers, who delight in the clean atmosphere of a latex works after the disagreeable solvent odors met with in ordinary practice.

The general characteristics of sheet rubbers and proofings

made from vulcanized rubber compared with those of similar goods made by the older processes (the comparisons being effected on current trade samples) may be briefly summarized as follows:

(a) Sheet rubber.
Various (thickness 0.2 to 0.3 mm.).
Strength (tensile): Vultex 50 to 100 per cent greater.
Ageing:

Artificial (70 hours, Geer oven): Vultex excellent; others poor condition.

Natural (35 days, sunlight): Vultex fair condition; others quite perished.

(b) Dental Dam.
Strength: Vultex about 25 to 30 per cent. greater.
Ageing:

Artificial (70 hours): Vultex, general condition good; others, general condition moderate. (Vultex strength after ageing about 75 per cent. greater).

Sunlight (25 days): Vultex general condition very fair; ordinary, badly perished.

The highest tensile figure obtained for a "pure" vulcanized latex sheet rubber, for a ring test piece, is not far short of 5,000 lb.; under the same conditions of testing, the best figure obtained for an ordinary ultra-accelerated pure mix is about 4,500 lb. With straight test pieces the results, presumably, would in both cases have been considerably higher.

Colored, compounded (filled) Vultex sheets are highly resistant to tearing. Both in this regard and with respect to "perishing" comparative tests have shown the marked superiority of vulcanized latex goods over several other grades examined.

As regards durability, similar results have been obtained with proofings, both in natural and artificial ageing tests. Comparative tests with a number of sheetings made by the ordinary processes (and selling at a similar price) resulted in complete or early failure.

How Ajax Injects Enthusiam Into Branch Collections

There are only two factors necessary for collection success, writes A. A. Wood, manager of collections for the Ajax Rubber Company, in the March issue of *System*. Consistency and persistency will after a time increase percentages, will decrease overdue accounts and often will make better merchants of the customers affected.

The Ajax credit and collection organization is divided into districts, with a district manager in each one. The ledger accounts for each are carried at the district headquarters, but close touch is maintained by the general office. Analyzed trial balances are forwarded each month. These list the name and address of every account, note the credit limits and analyze the amount owing by due dates over six months. These records are checked over carefully by the general office credit and collection department, together with a monthly letter of comments issued by the district offices concerning accounts 60 days past due. The general office advises with the district credit manager as to ways and means of eliminating overdue items.

It is the company's policy to issue a letter about the fifth of each month advising the dealer of items falling due for cash discount on the tenth and indicating the amount of extra profit to be made on the discount date. These letters are merely reminders, and have resulted in a surprising number of accounts formerly in the "slow but satisfactory" class becoming regular discounters.

The Ajax company keeps a majority of its accounts from becoming past due and those which do pass the border-line are usually brought into the fold quickly through consistent follow-up and a rule that provides, with few exceptions, for "No open-account shipments to past due accounts."

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Properties of A-16 Accelerator

New Aldehyde Product Said to Give High Tensile, Snappy Cure and Good Aging; Classed as Normal Temperature Accelerator

AFTER A LONG period of research, a new accelerator of the aldehyde series has been developed and recently introduced under the name A-16*. The manufacturers state that this accelerator is the result of efforts of their research chemists to improve this type of accelerator because of the excellent results obtained with the other members of the same series, A-7, A-11 and A-19. The following description of the properties and uses of A-16 has been furnished by its manufacturers:

As an aid to vulcanization, A-16 displays unusual merit. These can be briefly summarized by saying that while A-16 is a normally handled material, it imparts tensile strength comparable to ultra accelerators; gives an unusually long range of useful cure: provides the best aging, even on overcure, and is suitable for practically all types of compounds. A-16 stocks show no reversion on overcure; neither do they stiffen materially under the same conditions. This very uniform degree of hardness over a wide range of cure is a most desirable feature.

While A-16 is easily handled it is, nevertheless, a powerful vulcanizing accelerator and produces tensile strengths in considerable excess of 4000 lbs./in. even in pure gum stocks. Good cures are obtained in a few minutes at either 40 lbs. (287° F) or 30 lbs. (274° F) of steam. A-16 will give equal results in a longer time at 20 lbs. (259° F) steam, but when the temperature is reduced much below this point the time factor is prolonged beyond normal factory practice. For example, a simple stock such as shown in Graph I reaches its normal cure in 20 min. at 40 lbs.; in 30 to 35 min. at 30 lbs.; and in about 1 hr. 10 min. at 20 lbs. Below this temperature A-16 is relatively inactive.

A-16 Is Quickly Absorbed by Rubber

Physically A-16 is a thin brown liquid, very mobile at all normal room temperatures. It will pour quickly out of any container and no time is required for draining. The container need not be warmed at any time. The A-16 accelerator as it appears on the market consists of two thirds active material and one third high boiling inert liquid diluent. This dilution is to convert the A-16 into such physical shape that will allow of ease in handling. The A-16 base alone is a viscuous sticky material, having a tendency to adhere to the mill rolls. In the marketed form, however, it is quickly absorbed by rubber. If added near the center of the batch, it is all absorbed before any has a chance to run over to the roll guides. A-16 may be master batched in the usual way, though this is not necessary. Because of its physical nature, more than 10% master batch should not be attempted. A-16 may be safely handled in the factory as it is non-toxic and gives no form of cyanosis or skin rash.

A-16 is suitable as an accelerator in all types of compounds. Because of its color, it darkens white or very light colored stocks. However, unless a pure white or a very brilliant color is desired, A-16 may well be used.

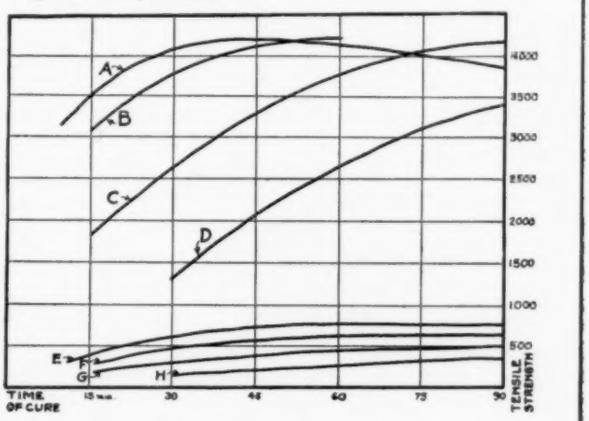
Zinc oxide is a necessary catalyst with A-16 as well as most other organic accelerators. Without it A-16 shows considerable activity, but does not attain its full strength until about 2 parts of zinc oxide are present in 100 of rubber. To overcome varying conditions, a minimum of 5 parts of zinc oxide to 100 of rubber in all A-16 formulas is recommended. A further amount acts as a re-inforcing ingredient only.

Carbon black retards A-16 but by increasing the amount of accelerator the retardation is overcome and very good stocks result. Clay also retards A-16, but not nearly as much as carbon black. Relatively slight variations in compounding will equalize these stocks. The addition of lime makes A-16 stocks more scorchy and yet does not appear to help the full cure. The same is true of magnesia in a more pronounced degree and litharge in a lesser degree. The addition of any mineral accelerator to an A-16 stock is therefore not recommended. Softeners, such as pine tar, fluxol and rosin all retard A-16. In compounding, proper allowance must be made for any considerable amount of such softeners.

Stearic acid, in the concentration of one per cent of the rubber, seems to be quite neutral. Because of the possibility of deficiency of organic acids in certain rubbers, the use of stearic acid in A-16 compounds is suggested, particularly where off-grade rubbers are used.

GRAPH 1

Illustrating the general characteristics of A-16 at different temperatures.



FORMULA		
	Pale Crepe	100.
	Zinc Oxide	5.
	Sulfur	3.5
	A-16	.7

Curve A shows tensile strength cured at 40 lbs. steam (287°F)
Curve B shows tensile strength cured at 30 lbs. steam (274°F)
Curve C shows tensile strength cured at 20 lbs. steam (259°F)
Curve D shows tensile strength cured at 10 lbs. steam (239°F)
Curve E " modulus, 500% elongation 40 lbs. steam (287°F)
Curve F " modulus, 500% elongation 30 lbs. steam (274°F)
Curve G " modulus, 500% elongation 20 lbs. steam (259°F)
Curve H " modulus, 500% elongation 10 lbs. steam (239°F)

This graph shows that A-16 is quite active at temperatures above 260°F and that below this temperaure its activity decreases rapidly. Note that tensiles above 4000 lbs. are obtained.

Tests conducted with a standard stock containing 100 parts of rubber and 5 parts of zinc with sulphur content varying from 2.5 to 4 parts and .5 to 1.5 of A-16 showed that the sulphur and accelerator content could be varied over extremely wide ranges and yet have stocks which come up to tensile quickly and withstand overcure. With less than 2.5 sulphur, the tests showed that there was some reversion of the stress-strain curves. It was therefore apparent that 3.5 sulphur with 100 rubber was a proper ratio for a good tire carcass stock. The curves obtained in these tests showed in general that about .75% of A-16 would give best tensile.

Other tests made with suitable tire friction, tread and high grade inner tube stocks with amounts of A-16 varying from .3 to .9 cured at different temperatures showed the effectiveness of this accelerator for such purposes. In the tire friction stock using .46 of A-16, tensiles of 3200 lbs. were obtained when cured at 287° F (40 lbs.) for 45 minutes while

*Manufactured by the Rubber Service Laboratories Co., Akron, Ohio, under U. S. Patent 1,467,984, issued Sept. 11, 1923 and other patents pending.

even at 20 lbs. (259° F), tensiles of approximately 2300 lbs. at 45 minutes cure and 2700 lbs at 60 minutes cure were obtained. This is a slow curing stock in which the 20 lb. curve showed up quite well, thus indicating that the inner plies of a heavy tire would receive a better cure than is normally found there.

For the high grade stock using a sulphur to rubber ratio of 3.54 to 100 and high carbon black content, it was found that an A-16 concentration of 1.45 to 1.50 gave the best properties. Tensiles of 4350 lbs. were obtained on a .90 A-16 stock cured 30 minutes at 40 lbs. Equally interesting results were found on the cheaper friction, cheaper tread and high grade inner tube stocks which were also tested. In heel stocks, A-16 produced a snappy, non-blooming heel when cured for ten minutes at 70 lbs. According to the manufacturers, A-16 is also suitable for hose, matting, tiling, soles, battery boxes and other hard rubber products and mechanical goods in general. These articles may be vulcanized at from 30 to 80 lbs. of steam. Because A-16 works satisfactorily with reclaimed rubber, soft rubber articles made in this manner are said to retain their normal hardness over their entire life and do not fail in service because of premature brittleness or aging.

Hard Rubber in the Preparation of Food Products

(Continued from Page 131)

combines the practical with the inexpensive, namely, hard rubber. This material, although only recently introduced in the food products industry, is being extensively used. The American Hard Rubber Company of New York city is the pioneer in the general introduction of hard rubber equipment in this industry.

Many of the large food product manufacturers are now using hard rubber in most of their apparatus which comes into contact with fruit juices, syrups and jellies. Steel tanks are lined with hard rubber and in many cases the tanks themselves are made of hard rubber which can be especially constructed to meet individual requirements. Utensils, such as dippers, pails and measures are made of hard rubber thus assuring protection from possible metallic poisoning. Hard rubber pipes threaded with every necessary coupling are being increasingly used wherever metallic contamination might occur.

Glycerine Has No Deteriorating Effect on Rubber

Some motorists have hesitated to use glycerine as an anti-freeze solution because they feared it would rot the rubber hose connections between radiator and motor. Extensive experiments conducted by the Vacuum Oil Company, New York, at its research laboratories refute this. Hose connections and rubber gaskets were allowed to remain in water, glycerine and ethylene glycol for long periods, and the results indicated that both glycerine and ethylene glycol had less effect on rubber than pure water. On the other hand, glycerine absorbed water that had previously been taken up by the rubber, thus allowing the hose sections and packing to return to their original size.

Glycerine, although it has a much higher specific gravity than water, when in solution flows easily through the cooling system, even when the solution is as high as 50 per cent. As it has a higher boiling point than alcohol or water, it does not heat up as quickly, but as far as radiator use is concerned, this is an advantage from some angles—summer driving, for instance.

The United States Bureau of Standards in a recent lengthy report concurs in the findings of the Vacuum Oil Company and points out that glycerine when chemically pure is free from acids or alkalis, as prepared for automotive use by the large soap manufacturers.

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Many manufacturing processes in the Rubber Industry are helped by the use of Factice.

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DEFIANCE, OHIO

RECLAIMED RUBBER

[*A Series of Articles on Its History Development - Manufacture - Uses*]

BY
C. E. Bishop
Consulting Engineer
on Reclaimed Rubber

PART III

Improved Quality Merits Higher Prices

Present Selling Prices of Reclaims Are Too Low in View of The Improved Quality Which the Reclaimers Are Delivering

IN THE last issue[1] reference was made to the excellent paper on "The Economical Use of Reclaimed Rubber as a Substitute for New Rubber" which J. M. Bierer and C. C. Davis of the Boston Woven Hose and Rubber Company read before the February, 1926, meeting of the Rubber Divsion of the American Chemical Society. Subsequently, a special committee prepared a report embodying an authentic expression of the opinion of the Rubber Division on this subject. It is hoped that the reader has thoroughly assimilated the subject matter of the article and report, and fully appreciates that the statements made therein are the judgments made, or concurred in, by the leading chemists of the rubber industry.

Under the heading, "The Technical Aspects", Messrs. Bierer and Davis state that there are at least four methods which may be followed by those endeavoring to produce rubber goods more economically. The suggested methods were as follows:

(1). Manufacture a synthetic rubber, the quality and cost of which makes it a satisfactory substitute for natural rubber.

(2). Improve the quality of reclaimed rubber, so that the rubber component of the reclaimed rubber is more nearly the equal of new rubber.

(3). Determine the relative value of new rubber and existing reclaimed rubbers and with this data utilize new and reclaimed rubber in the most economical manner.

(4). Utilize new compounding methods and materials in conjunction with any of the foregoing.

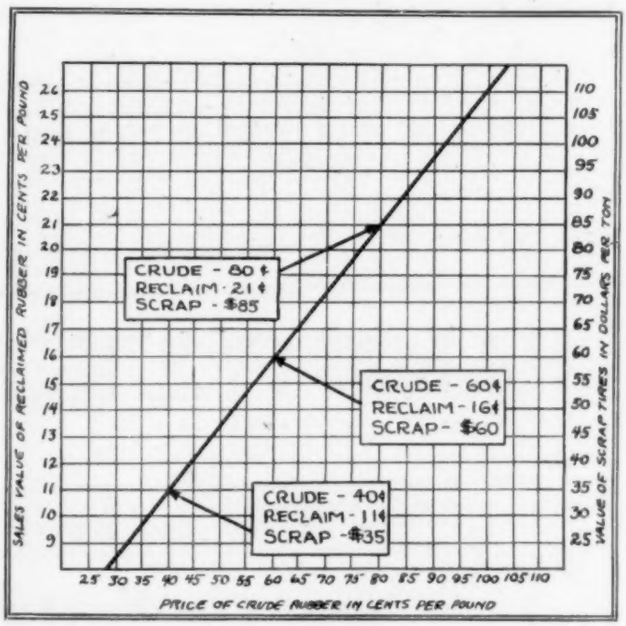
In the present series of articles we will ignore the first of these suggestions, not because we doubt the ultimate accomplishment of synthetic rubber, but rather because we believe that even though a successful substitute for natural rubber were developed, the conservation of scrap rubber by economical and efficient methods of reclaiming will always necessarily be desirable and profitable.

Good reclaimed rubber stock is not only desirable today but for many products it is absolutely essential and always will be. Experiments have shown that even when crude rubber was selling as low as fifteen cents per pound, and there was therefore the greatest incentive for its use, it was impossible to develop a formula consisting of crude rubber and pigments for a certain staple commodity which would compare with the reclaimed rubber formula. The comparison in this case was made on a basis of quality and cost, the three major factors of quality being resiliency, resistance to abrasion and aging.

The writer recalls distinctly that when crude rubber was selling at the lowest price in the history of the industry, reclaimed rubber was being made and sold at a profit. The selling price of reclaimed rubber was of course lower and the margin of profit was consistently less. This was true because at that time scrap auto tires were selling at twelve to fifteen dollars per ton, such material being the most important factor in reclaiming costs. The value of reclaimed rubber was then proven for compounders agreed that regardless of the selling price of crude rubber, reclaimed rubber of the kind then available was absolutely necessary if the quality and cost of certain rubber commodities were to be maintained.

It seems to us that that period marked the turning point in the history of the reclaimed rubber industry. Instead of reclaimed rubber being considered thereafter as a necessary evil with "its use never to be seriously thought of except in low grade products or when the price of crude made it interesting from a cost standpoint", reclaimed rubber was recognized as being essential in accomplishing the objective of the compounder.

At about that time a table of comparative values of crude and reclaimed rubber was developed, tending to show the relative value of a whole tire reclaim when crude rubber was selling at a given price. This was later put into graphic form and is identical with the graph submitted by Messrs. Bierer and Davis in connection with their article mentioned above except that the one developed later also shows the relative value


SALES VALUE OF RECLAIMED RUBBER IN CENTS PER POUND
VALUE OF SCRAP TIRES IN DOLLARS PER TON
CRUDE - 80¢
RECLAIM - 21¢
SCRAP - $85
CRUDE - 60¢
RECLAIM - 16¢
SCRAP - $60
CRUDE - 40¢
RECLAIM - 11¢
SCRAP - $35
PRICE OF CRUDE RUBBER IN CENTS PER POUND

Comparative Value of Crude, Reclaimed and Scrap Rubber

[1]See THE RUBBER AGE, April 25, 1927, page 83. This series of articles is copyrighted by C. E. Bishop. To be reprinted only by permission.

of scrap auto tires. This similarity is surprising since the chart on Page 137 was worked out independently by individuals other than those who developed the previously published one. This might be taken as convincing evidence that it may be used as a fair basis of judgment of relative value of these commodities.

Assuming that the above chart is reasonably correct, we find by referring to it that when the prevailing market price of crude rubber is forty cents per pound, a whole tire reclaim of staple quality is worth eleven cents per pound and scrap tires are worth thirty-five dollars per ton. But the whole tire reclaims are being sold today at around eight and one-half cents per pound and standard black auto tires are being offered at thirty to thirty-two dollars per ton. This price relationship is seen to be inconsistent and reflects a not at all healthy condition for the reclaimed rubber industry. The cause can be attributed to nothing but price-cutting competition, and unless the industry gets back to a sound basis of economic values there is but one alternative, the functioning of the natural law of the survival of the fittest.

Attitude of Chemists Change

The change in the mental attitude of the chemists and technical men in charge of the compounding toward the greater use of reclaimed rubber was no doubt due to the discovery that reclaimed rubber could be made uniform and that process methods had been developed to assure the physical qualities of the reclaimed rubber being consistently uniform from day to day. Up until the time this was accomplished these men were perfectly justified in assuming a seemingly prejudiced attitude. The variations in the specific gravity of reclaims would cause either bad goods (light in mold) or an excessive overflow, depending on whether it was the extremely light gravity or heavy gravity stock being used. This lack of uniformity was due to material in process separating into light and heavy masses and then being refined in this condition of segregation.

Moisture in Reclaimed Rubber

Another factor of grief with which the chemists and technical men contended was excessive moisture in the reclaimed rubber. This caused the product in which the reclaim was used to come out of the mold "blown", that is, in a spongy condition due to the water forming gas pockets under heat and pressure in the mass. Many times this was no doubt aggravated by excessive alkalinity which is a vulcanizing accelerator and when present in irregular quantities was no doubt accountable for considerable bad (overcured) goods.

Today all the progressive reclaimers are maintaining laboratories where both physical qualities and chemical characteristics of their reclaims are tested and methods of control in process established to insure the uniformity of their products. As development work is carried on it will mean that higher and higher standards will be determined upon, particularly as to the tensile, elongation, and specific gravity of the various reclaimed rubbers which have been made from selected materials by special processes and intended for use in certain specific products.

The following table shows a typical form which is used to describe the analysis of a reclaimed rubber made of selected tires and tire parts, with certain allowable variations:

ANALYSIS OF AN AUTO TIRE RECLAIM

Tensile (per sq. in.)	1130 lbs
Elongation	520%
Specific Gravity	1.218
Acetone Extract	10.95%
Alcoholic Potash	0.91%
Chloroform Extract	5.01%
Ash	24.15%
Free Sulphur	1.50%
Total Sulphur	5.40%
Moisture	0.28%
Carbon Black	0.75%

Specific gravity determinations shall check within .001, and the other duplicate determinations shall check within the following limits expressed as percentages of the original sample.

	Per Cent
Acetone Extract	0.10
Alcoholic Potash Extract	0.10
Chloroform Extract	0.10
Ash	0.10
Free Sulphur	0.05
Total Sulphur	0.10
Moisture	0.25
Carbon Black	0.50

The results of the analysis shall be stated in the following form:

	Per Cent
Acetone Extract	
Alcoholic Potash Extract	
Chloroform Extract	
Ash	
Free Sulphur	
Total Sulphur	
Specific Gravity	
Floresence acetone extract (present or absent)	
Color of Chloroform Ext.	
Carbon (present or absent)	
Moisture	

[In the next issue Mr. Bishop will discuss the possibilities of developing still more improved processes in an effort to attain the objective announced in the first article, that is, the improvement of reclaimed rubber until it more nearly equals the original unvulcanized compounded mass. Editor.]

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Floods Cause Unsteady Cotton Prices

Tire Fabrics Remain Generally Normal In Spite of Unsettled Cotton market

NEW YORK, May 3, 1927—The breaking of the St. John's levee in Missouri on April 20, and overflows reported in Arkansas, created an active cotton market on that day which has continued irregularly to date. The largest volume of business for several weeks occurred on April 20, and new crop months advanced into new high territory for the year with prices gaining $1 a bale and ending at an advance of 18 to 20 points. Further breaking of the levee in Missouri on April 21 threw the cotton market into considerable excitement. Business was heavy and prices rose violently over ½ cent a pound and closed at a gain of 46 to 53 points. May contracts sold above 15 cents, compared with 12 cents the early part of December, while March changed hands at 15.88, or within 12 points of the 16-cent level.

Floods Increase Buying

With Washington reports indicating one of the most serious flood situations on record, the buying movement gained momentum. On April 22, after an early reaction which carried October below 15.20, new buying steadied the market $1 a bale, with final quotations 20 to 27 points lower. With the close of the week, April 23, cotton continued in a strong position, the quotations showing a generally rising tendency. Slightly higher prices were made on tire fabrics for delivery for the third quarter of the year.

On April 25 liquidation of the outstanding long interest in May prior to the circulation of notices assumed increasing proportions as the session advanced. The rise above 15 cents carried May to 15.17 where the advancing movement was arrested by the volume of contracts offered. The local market for spot cotton was steady, 10 points advance, 15.35c for middling upland. Although another levee break was reported on the 26th, for the first time this season no rain occurred in the south. This caused extensive profit taking in the market and left final quotations 16 to 22 points lower. On April 27, after a session of frequent nervous and irregular price changes, the list strengthened and ended at the top with a gain of 12 to 18 points. Absence of rain and predictions of fair to cloudy weather brought out cotton on advances, but contracts were wanted on declines which maintained fluctuations within limits of 20 points.

April closed with market prices irregular and unsteady, and after frequent fluctuations over a 15-point range the list ended on April 29 at a loss of 5 to 14 points. May opened with the local market for spot steady, with middling uplands at 15.45c, an advance of 15 points from April 30.

Sheetings

Sheetings have remained generally quiet in the past two weeks with steady sales that were not apparently influenced by the nervous condition of the cotton market. Sales of 40-inch, 2.50 yard were put through at 11c; 40 inch 3.75 yard at 7¾c; and 40 inch 4.25 yard at 6¾c. Toward the close of the month sheeting sales were confined to small size lots with quotations normal.

Ducks

A moderate amount of inquiry characterized the week of April 23. The brisker section of the cotton duck market was in the finished product which jobbers were selling more actively than for some time. Hose and belting looms are generally sold ahead into July and single filling further ahead. With warmer weather jobbers find a larger evidence of business which is bringing them commitments from various sections of the country. Toward the close of the month it was reported from the mills that some fair sized June business was turned down because the required looms are busy producing against previously placed commitments.

Current COTTON and FABRIC *Quotations*

COTTON CLOSING PRICES

	High	Low	May 3 Close	Apr. 18 Close
May	15.44	15.17	15.44	14.33
July	15.70	15.44	15.68	14.56
October	15.98	15.75	15.97	14.83
December	16.17	15.93	16.17	15.01

The local market for spot cotton was strong, 30 points advance, 15.75c for middling upland.

TIRE FABRICS

CORD				
Peeler, carded, 23/5/3	lb.	.37	@	.39
Peeler, carded, 23/4/3	lb.	.37½	@	.38½
Peeler, carded, 13/3/3	lb.	.34	@	.34½
Peeler, carded, 15/3/3	lb.	.34½	@	.35½
Egyptian, carded, 23/5/3	lb.	.43	@	.44
Egyptian, combed, 23/5/3	lb.	.49	@	.50
CHAFERS				
Carded American, 8 oz.	lb.	.34	@	.34½
Carded American, 10 oz.	lb.	.35½	@	.36½
Carded American, 12 oz.	lb.	.36	@	.36½
Carded American, 14 oz.	lb.	.36½	@	.37
LENO BREAKER				
Carded American, 8¼ oz.	lb.	.35	@	.35½
Carded American, 10¼ oz.	lb.	.36½	@	.37
SQUARE WOVEN				
Carded American, 17¼ oz. 13-11 ply	lb.	.36½	@	.37½
Carded American, 17¼ oz. 10-5 ply	lb.	.34	@	.34½

SHEETINGS

40-inch 2.50-yard	yd.	.11	@	.11¼
40-inch 2.85-yard	yd.	.10	@	.09¾
40-inch 3.15-yard	yd.	.10⅝	@	.10¾
40-inch 3.60-yard	yd.	.09	@	—
40-inch 3.75-yard	yd.	.07¾	@	—
40-inch 4.25-yard	yd.	.06¾	@	.06⅞

DUCKS

Belting and Hose	lb.	.29	@	.30
Enameling	lb.	.30	@	.34
Shoe Ducks	lb.	.29½	@	.33⅓
Single filling	lb.	.12	@	.15
Double filling	lb.	.14½	@	.16

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Rubber Steady as New Quarter Begins

Heavy Sales Feature Close of April With Interest Centered on Estimated Number of Unused Coupons

NEW YORK, May 3, 1927—Prices on the Rubber Exchange and in the outside market have remained fairly steady since our last report, in spite of several matters in the news that gave encouragement to the bullish element. The Exchange closed 10 to 20 points higher on April 21 but the outside market remained unmoved.

The last week in April began quietly. An increase of 478 tons in the London stock to 65,511 tons was too small to serve as an excuse for heavy buying. Prices ruled steady in all markets on April 25, closing unchanged in London and in the outside market here, while the Exchange sold July delivery 10 points lower and September 10 points higher. Trading in April delivery ceased at noon on April 26 with no transactions recorded, while the fall positions advanced slightly, only to lose the gain on easier cables. The outside market steadied on the appearance of factory inquiry late on April 26. Buyers' ideas on April were 40⅝c, against 40¾c offered, and bids of 40¾c were made on May, against sellers at 41c.

The calm which has persistently characterized Exchange trading for the past four or five months was broken on April 27 when a local operator threw his May holdings on the market in heavy volume and bought in July and the more distant positions. The Exchange had its busiest day since early in December, the turnover amounting to 599 lots or 1,497½ long tons. The outside market was very steady and slightly higher with sellers quoting both April and May at 41c and buyers at 40¾c. Toward the close of the week, and also the close of the month and the quarter, there was a tendency to sell rubber in all markets. On April 28 transactions on the Exchange totaled 238 lots or 595 tons, of which 117 lots were done in the first hour.

The London Times on April 28 figured that 60% exports for two quarters will bring the world supply for the year down to 500,000 tons, against 545,000 tons last year, and will probably bring available supplies below consumption needs, particularly in view of the fact that unutilized export credits in the Far East have considerably reduced this year.

The last day in April revealed a steady market, although rubber started a new restriction quarter. May delivery on the exchange opened at 40.30c, or 40 points under the week's high, receded slightly, but closed at the opening price for a 10-point net gain. The outside market was very quiet. The standard plantation off-grade and Para rubbers were all unchanged. With the end of the quarter on Saturday, April 30, the London average price for the three months was officially announced to be 19.696 pence. On May 2, in the face of estimated April imports totaling over 48,000 tons, a record breaking figure, rubber remained very steady.

MAY 2 OPEN MARKET PRICES

Plantations—		
Ribbed Smoked Sheets		
Spot	.40½ @	.40¾
May	.40⅝ @	.40¾
June	.40⅞ @	.41⅛
July/September	.41⅜ @	.41⅞
October/December	.42⅝ @	.42⅞
First Latex, crepe spot	.41⅛ @	.41¼
Amber Crepe, No. 2, spot	.38¾ @	—
" " No. 3	.38 @	.38¾
" " No. 4	.37¾ @	—
Brown Crepe, Rolled	.35½ @	.35¾
" " Clean, thin	.38 @	.38¼
" " Specky	.37¾ @	—
Liquid Latex, per gal.	1.50 @	1.75
Pontianac—		
Bangermassin	Nominal	
Palembang	Nominal	
Prime Pressed	Nominal	
Sarawak	Nominal	
Paras—		
Up-river Fine	.33 @	.33½
" Medium	.29 @	—
" Coarse	.23¾ @	.24½
Acre Bolivian, fine	.42 @	—
Tapajos, fine	.39 @	—
Cut Beni Bolivian, fine	.45 @	—
Caucho Ball—		
Upper, shipment	.25¾ @	.26½
Centrals—		
Corinto, scrap	.27 @	—
Esmeraldo, sausage	.25 @	.25½
Guayule, *washed and dry*	.31 @	—
Africans—		
Benguela, No. 2	Nominal	
Congo, upper, black	Nominal	
" " red	Nominal	
Balata—		
Block, Colombia	.39 @	.40
" Cuidad	.38 @	.38½
Surinam, sheet	.73 @	.75
Gutta Percha—		
Siak	.24 @	—
Red Macassar	3.00 @	—

LONDON MARKET

Standard Ribbed Smoked Sheets—*Buyers*		
Spot	19⅝ @	19⅞d
June	19⅞ @	20
July/Sept.	20⅛ @	20½
Oct./Dec.	20⅞ @	21
May	19⅝ @	19¾

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—*Sellers*		
Spot	19⅞ @	— d
May/June	19¾ @	20
July/Sept.	20⅞ @	21

RECLAIMED RUBBER

NEW YORK, May 4, 1927—Reclaimers continue to report high production schedules—a condition which is expected to run into June and July according to well-informed executives. With tire plants busy, demand for reclaims from users is very active. Prices are several instances easier, the general tone however being firm. Quotations follow:

High Tensile			
Super-Reclaim No. 1 Black	lb.	.17½ @	.18
Super-Reclaim No. 2 Black	lb.	.14½ @	.15
High Tensile Red		.15 @	.15½
Shoe			
Unwashed	lb.	.08¼ @	.08⅝
Washed	lb.	.11 @	.11½
Tube			
No. 1 (Floating)	lb.	.18½ @	.19
No. 2 (Compounded)	lb.	.14 @	.14½
Tires			
Black, washed		.10½ @	.10¾
Black, unwashed		.08½ @	.08¾
Black selected tires	lb.	.09½ @	.10
Dark Gray	lb.	.12¾ @	.13¼
Light Gray	lb.	.13½ @	.14
White	lb.	.15½ @	.16
Truck, Heavy Gravity	lb.	.08½ @	.09
" Light Gravity	lb.	.09 @	.09½
Miscellaneous			
Mechanical Blends	lb.	.08 @	.08½
Red	lb.	.15 @	.15½

SCRAP RUBBER

NEW YORK, May 4, 1927—Accumulation of stocks has increased lately with the result that reclaimers have been able to get most grades of scrap at lower prices. Quotations follow:

[Prices to Consumer]

Auto tire peelings	ton	34.00	@35.00
Standard White auto	ton	50.00	@52.00
Mixed auto	ton	26.00	@27.00
Bicycle tires	ton	24.00	@25.00
Clean solid truck tires	ton	31.00	@33.00
Boots and shoes	lb.	.01⅞ @	.02
Arctics, trimmed	lb.	.01 @	.01⅛
Arctics, untrimmed	lb.	.00⅞ @	.01
Inner tubes, No. 1	lb.	.08¾ @	.09
Inner tubes, No. 2, compounded	lb.	.06¾ @	.07
Inner Tubes Red	lb.	.06¼ @	.06½
Air Brake Hose	ton	36.00	@37.00
Rubber hose	ton	18.00	@20.00

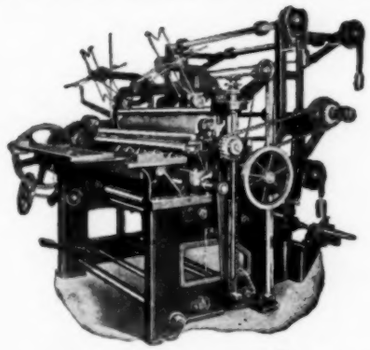
Closing Prices on Rubber Exchange of New York, Inc.

APRIL 19 TO MAY 2

		April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	SALES*
April	19	40.30	40.50	41.00	41.40	41.80	41.90	42.00	42.50	42.80	43.00	43.20	43.40	137
	20	40.70	40.80	41.30	41.70	42.00	42.20	42.50	42.90	43.10	43.30	43.60	43.90	138
	21	40.70	40.90	41.50	41.80	42.00	42.40	42.60	43.00	43.20	43.40	43.70	44.10	223
	22	40.70	40.70	41.30	41.60	41.80	42.20	42.30	42.80	43.00	43.20	43.50	43.90	200
	23	40.60	40.60	41.10	41.60	41.90	42.10	42.30	42.70	43.00	43.20	43.50	43.90	46
	25	40.60	40.60	41.00	41.50	41.90	42.10	42.30	42.70	43.00	43.20	43.50	43.90	95
	26	——	**40.50**	**41.00**	**41.40**	**41.80**	**42.10**	**42.20**	**42.60**	**43.00**	**43.20**	**43.50**	**43.90**	**129**
	27	——	40.40	40.90	41.40	41.80	42.20	42.40	42.70	43.10	43.20	43.40	43.50	599
	28	——	40.30	40.60	41.10	41.50	41.80	42.10	42.30	42.60	42.80	43.10	43.30	238
	29	——	40.20	40.70	41.10	41.50	41.70	42.00	42.10	42.50	42.70	43.00	43.20	262
	30	——	40.20	40.60	41.10	41.40	41.60	41.80	42.00	42.40	42.60	42.90	43.10	83
May	2	——	40.20	40.70	41.10	41.40	41.70	41.80	42.40	42.70	43.20	43.10	44.00	59

(*) In lots of 2¼ tons each; totals are for old and new contracts. (Prices are for new contracts)

CAMACHINE 6-C



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SPECIFICATIONS

UNITED CLAY MINES CORP'N. TRENTON, N. J.

May Chemical Market Continues Active

Prolonged High Production Schedules of Rubber Manufacturers Sustain the Demand for Chemicals and Compounding Materials

NEW YORK, May 5, 1927—With tire manufacturers working at almost peak levels, movement of rubber chemicals and compounding materials during April and so far this month has been as great if not greater than any month this year. Producers reported excellent business during January, February and March and though they hardly expected such operations to run into the later Spring months they are gratified at present conditions in the rubber industry. Ordinarily at this time of the year, tire and tube plants begin to ease up in production but so far 1927 has been a welcome exception.

Some concern has been felt by both producers and users of carbon black as to the possible effects of the flood conditions in the Southern states, especially in Louisiana. We are assured, however, by several of the larger producers that so far the greatest difficulty has been in obtaining adequate railroad shipping facilities. Quotations follow:

ACCELERATORS

Organic

A-7	lb.	.70	@	—
A-40	lb.	.70	@	—
A-19	lb.	.75	@	—
A-11	lb.	.75	@	—
Aldehyde ammonia, crystals	lb.	.80	@	.82
Aniline oil, drums	lb.	.17	@	.17½
"BB"	lb.	—	@	—
Captax	lb.	—	@	—
Crylene	lb.	.70	@	—
paste	lb.	.50	@	—
Di-Ortho-Tolylguanidine	lb.	.85	@	.90
Diphenylguanidine	lb.	.68	@	.72
Ethylidene aniline	lb.	.60	@	.65
Excellerex	lb.	.35	@	.40
Formaldehyde Aniline	lb.	.38	@	.42
Grasselerator 102	lb.	.80	@	.82½
Grasselerator 552	lb.	4.80	@	5.00
Grasselerator 808	lb.	1.15	@	1.35
Heptene	lb.	.55	@	—
Hexamethylene-tetramine	lb.	.80	@	.82½
Lithex	lb.	.18	@	.20
Monex	lb.	3.25	@	—
Paraphenylenediamine	lb.	1.25	@	1.30
Piperidine-Piperidyldithio-Carbamate	lb.	4.80	@	5.00
Quinoidine	lb.	.40	@	—
R & H 50	lb.	.60	@	.65
Super-Sulphur No. 1	lb.	—	@	—
Super-Sulphur No. 2	lb.	—	@	—
Tensilac, No. 41	lb.	.65	@	.68
Thiocarbanilide, kegs	lb.	.26	@	.28½
Trimene	lb.	.75	@	—
base	lb.	1.20	@	1.35
Triphenylguanidine	lb.	.69	@	.73
Tuads	lb.	—	@	—
Vulcone	lb.	.70	@	.74
Z. 88	lb.	.75	@	1.00
Zimate	lb.	—	@	—

Inorganic

Lead, sublimed blue	lb.	.09	@	.09½
Lead, white	lb.	.09	@	.09½
Litharge, domestic	lb.	.12	@	.14
Magnesia, calcined, light	lb.	.06	@	.12
heavy	lb.	.04	@	.04½

COLORS

Blacks (See Compounding Materials)

Blues

Prussian	lb.	.33	@	.35
Ultramarine	lb.	.08	@	.35

Browns

Siena, Italian	lb.	.04½	@	.08
Umber, Turkey	lb.	.04½	@	.06

Greens

Chrome, light	lb.	.27	@	.31
medium	lb.	.29	@	.32
dark	lb.	.31	@	.34
Chromium Oxide, bbl.	lb.	.28	@	.32

Reds

Antimony crimson, 15/17	lb.	.27	@	—
sulphur free	lb.	.48	@	.50
golden 15/17 F.S.	lb.	.16	@	.22
Indian English	lb.	.08	@	.10
Oximony	lb.	.13¼	@	—
Para toner	lb.	.13	@	.14
Red oxide, reduced	lb.	.10	@	.11
pure	lb.	.14	@	.15
Toluidine toner	lb.	1.75	@	1.85
Venetian red	lb.	.02	@	.06
Vermillion, quicksilver, English	lb.	1.55	@	1.65

Whites

Lithopone, Akcolith	lb.	.05¾	@	.06
Lithopone, Azolith	lb.	.05½	@	.05¾
Lithopone, Vanolith	lb.	.10½	@	—
Titanox	lb.	.12	@	.12½
Calc. Base Pigment	lb.	.10½	@	.11
Zinc Oxide—American Process				
American Azo:				
ZZZ (lead free)	lb.	.06½	@	.07
ZZ (under 5% leaded)	lb.	.06⅝	@	.07⅛
Zinc Oxide—French Process				
White seal	lb.	.11⅞	@	—
Green seal	lb.	.10⅞	@	—
Red seal	lb.	.09⅞	@	—

Yellows

Chrome	lb.	.17	@	.20
Ocher, French medium	lb.	.03	@	.03¼
domestic	lb.	.01¾	@	.02

COMPOUNDING MATERIALS

Aluminum Flake (f.o.b. plant)	ton	21.85	@	24.50
Hydrate light	lb.	.16½	@	.17
Ammonia carbonate	lb.	.13½	@	.14
Are-O-Sol	ton	8.00	@	11.00
Asbestine	ton	14.75	@	18.00
Barium carbonate	ton	50.00	@	52.00
Barium Dust	lb.	.05	@	.06
Barytes southern off-color,	ton	12.00	@	18.00
Western prime white	ton	23.00	@	—
imported	ton	27.00	@	36.00
Basofor	lb.	.04½	@	—
Blacks				
Arrow "Aerfloted"	lb.	.08	@	.12
Bone Black	lb.	.05½	@	.11
Carbon, compressed	lb.	.07½	@	.11½
uncompressed	lb.	.07	@	.11
Drop Black	lb.	.06	@	.10
Lamp	lb.	.12	@	.40
Micronex	lb.	.08	@	.12
Thermatomic carbon	lb.	—	@	—
Velvetex carbon	lb.	.04	@	.07
Blanc fixe dry f.o.b. works	lb.	.04	@	—
Carrara filler	lb.	.01¾	@	.02
Catalpo (fact.)	lb.	.02	@	—
Chalk	lb.	.02½	@	.04½
Clay, China, domestic	ton	8.00	@	9.00
Aerfloted Suprex	ton	9.00	@	20.00
Blue Ridge, Dark	ton	—	@	—
" " Light	ton	—	@	—
Dixie	ton	—	@	—
Langford	ton	—	@	—
Mineral Flour, c. l. fob mine	ton	20.00	@	23.00
Tensulite		15.00	@	—
Glues, extra white	lb.	.20	@	.29
medium white	lb.	.19	@	.25
common bone	lb.	.14	@	.15
Graphite flake, bbls.	lb.	.06½	@	.10
Magnesia, carbonate	lb.	.07	@	.09
Mica, powdered	ton	90.00	@	100.00
Rotten Stone (powdered)	lb.	.02½	@	.04½
Soapstone, powdered	ton	15.00	@	22.00
Starch, powdered	cwt.	3.30	@	3.70
Talc, domestic	ton	16.00	@	18.00
Terca Alba	cwt.	1.15	@	1.75
Tripoli, white	lb.	.01¾	@	.02
Whiting, commercial	cwt.	.85	@	1.00
English cliffstone	cwt.	1.50	@	—
Quaker	ton	—	@	—
Superfine	ton	10.00	@	12.00
Sussex	ton	—	@	—
Vansulite	ton	12.50	@	—
Wood pulp XXX	ton	45.00	@	—
" " X	ton	25.00	@	—

MINERAL RUBBER

Genasco (factory)	ton	50.00	@	52.00
Granulated M.R.	ton	—	@	—
Hydrocarbon, Hard	ton	—	@	—
Hydrocarbon, Soft	ton	—	@	—
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00	@	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00	@	47.00
Paradura	ton	62.50	@	65.00
Pioneer, MR, solid	ton	41.00	@	43.00
—granulated	ton	51.00	@	53.00
Robertson, MR, solid	ton	34.00	@	80.00
M.R. (gran)	ton	34.00	@	80.00

SOFTENERS

Acids

Nitric, 36 degrees	cwt.	5.00	@	5.25
Sulphuric, 60 degrees	ton	10.50	@	11.50
66 degrees	ton	15.00	@	16.00
Tartaric, crystals	lb.	.31½	@	—

Acids, Fatty

Stearex	lb.	.10	@	.14
Stearic, single pressed	lb.	.10	@	.11
double pressed	lb.	.11½	@	.12
triple pressed	lb.	.13½	@	.14

Alkalies

Caustic soda, 76%	cwt.	3.76	@	3.91
Soda ash, 58% C.L.	cwt.	1.42½	@	1.45

Oils

Castor, No. 3 bbls	lb.	.13¾	@	.14
Corn, crude, bbls.	lb.	.09¾	@	.10
refined	lb.	.11	@	—
Cottonseed, crude		.08	@	—
Cycline	gal.	.26	@	.34
Fluxrite	lb.	.05	@	.06
Glycerine, C.P. drums	lb.	.26	@	.26½
Linseed, RawC.L. bbl.	lb.	.09½	@	.10
Moldrite	lb.	.05	@	.06
Palm Lagos	lb.	.08½	@	—
Niger	lb.	.07½	@	—
Vansulol	lb.	.10½	@	—
Peanut,domestic,crude	lb.	.11	@	—
Petrolatum, white	lb.	.08⅞	@	.09
amber	lb.	.03¾	@	.04
dark amber	lb.	.03⅜	@	.03½
Pine, steam distilled	lb.	.70	@	—
Rapeseed, refined	gal.	.82	@	.83
Rosin, first rectified	gal.	.70	@	—
second rectified	gal.	.73	@	—
Synthecite	lb.	.06	@	—

Resins and Pitches

Pitch, Burgundy	lb.	.06½	@	.07½
coal tar	gal.	.05½	@	.06
pine	bbl.	9.00	@	10.00
Rosin, grade K	bbl.	11.40	@	—
Pigmentar	gal.	.33	@	.41
Tar Retort	bbl.	15.50	@	16.00
kiln burned	bbl.	16.00	@	16.50

Solvents

Acetone, pure	lb.	.14½	@	—
Alcohol denatured, No. 1 bbls.	gal.	.37½	@	.44½
Benzol, 90%	gal.	.28	@	—
pure		.29	@	—
Carbon bisulphide	lb.	.05½	@	.06¼
Carbon tetrachloride		.06¾	@	.07½
Motor gasoline, steel bbls.	gal.	.20	@	—
Naptha, V. M. & P.	gal.	.14	@	—
Turpentine, spirits	gal.	.78	@	.79
wood	gal.	.72	@	.73

Waxes

Beeswax	lb.	.58	@	.60
Carnauba, No. 1	lb.	.57	@	.59
Ceresin, white	lb.	.13	@	.14
Montan, crude	lb.	.07	@	.07½
Ozokerite, black	lb.	.30	@	—
green	lb.	.30	@	.32

ANTI-OXIDANTS

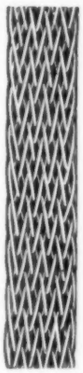
Age-Rite	lb.	—	@	—
Antox	lb.	.81	@	.83
VGB	lb.	.55	@	.66

SUBSTITUTES

Black	lb.	.08	@	.14
White	lb.	.10	@	.16
Brown	lb.	.10	@	.15

VULCANIZING INGREDIENTS

Ethyl Chloride, Cyl.	lb.	.34	@	—
" Drums	lb.	.24	@	—
Sulphur Chloride (drums)	lb.	.03½	@	.06
Sulphur flour				
Superfine, bags	cwt.	2.20	@	2.80
" bbls.	cwt.	2.55	@	3.10
100% pure, refined, bags	cwt.	2.60	@	3.15
bbls.	cwt.	2.95	@	3.50



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in
The Carrier Ejector System Dryer

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Grasselerator 552
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THE MARKET PLACE Section Continued on Next Page

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The Market Place

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THE MARKET PLACE Section Continued on Next Page

The Market Place

3.

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AKRON OHIO

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The Akron Rubber Mold & Machine Co.
AKRON, OHIO.

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Akron, Ohio
CAPACITY 250,000 POUNDS DAILY

THE MARKET PLACE Section Continued on Next Page

The Market Place

4.

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STATISTICAL SECTION

TIRES & TUBES
CRUDE RUBBER

AUTOMOBILES
GASOLINE

THE REDUCTION of 10% in the allowable rubber exports under the British rubber restriction scheme on May 1 apparently had no effect on the London market which remained steady. Spot closing prices in that market on May 2 and 3 were firm at 19⅝ pence. The average London price for ribbed smoked sheets during the restriction quarter ending with April was 19.696 pence. The New York average price for the same grade in April was 40⅞ cents.

Crude rubber stocks in London showed a gradual increase throughout April, culminating in a stock of 67,034 tons on the last day of the month. Rubber stocks held by dealers in Singapore and Penang at the end of March, according to London cables, amounted to 27,844 tons which compares with 26,766 tons at the end of February.

Estimated imports of rubber into New York during April were about 48,000 tons, or an approximate total of 50,000 tons including outside ports. With April consumption probably totalling about 35,000 tons, it would appear that a considerable addition has been made to stocks in the United States.

New statistics covering United States rubber imports and re-exports for the month of March have been added to the table in this section. Also, March passenger car and truck production statistics have been added to the tables together with a few provisional figures covering March exports of rubber from principal producing countries.

PLAN OF THE SECTION

The statistics included in this section have been chosen for their constant importance to the rubber industry. The tables are reprinted in the same relative position in every issue, each table being kept current by the addition of new figures as soon as they become available. The section accordingly affords the most up-to-date, complete and convenient statistical service in the industry.

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U. S. Imports and Exports of Crude Rubber.

YEARS	Gross Imports: Long Tons	Gross Imports: Total Declared Value	Gross Imports: Average Declared Value per pound Cents	Re-exports: Long Tons	Re-exports: Total Declared Value	Re-exports: Average Declared Value per pound Cents	Net Imports: Long Tons
1921	185,394	73,772,677	17.76	5,716	2,414,924	18.86	179,678
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.72	8,772	5,672,319	28.87	300,372
1924	328,056	174,231,331	23.71	10,309	6,057,637	26.23	317,747
1925	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1925:							
Jan.	32,898	22,406,756	30.41	1,162	963,593	37.02	31,736
Feb.	24,696	18,532,115	33.50	979	779,406	35.53	23,717
Mar.	33,072	25,146,691	33.94	1,345	1,105,119	36.69	31,727
Apr.	32,506	24,874,562	34.16	1,130	1,009,305	39.86	31,376
May	36,932	30,311,754	36.64	1,203	1,323,445	49.12	35,729
June	31,569	26,855,883	37.98	1,198	1,577,106	58.75	30,371
July	32,455	33,701,723	46.36	1,278	2,132,681	74.52	31,177
Aug.	33,412	39,834,348	53.22	1,131	1,623,258	64.08	32,281
Sept.	26,367	36,686,013	62.11	1,154	1,820,360	70.41	25,213
Oct.	34,651	50,027,338	64.45	1,132	1,989,291	78.43	33,519
Nov.	37,755	56,271,963	66.54	1,605	2,898,930	80.65	36,150
Dec.	40,329	65,055,868	72.02	1,510	2,625,259	77.61	38,819
	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926:							
Jan.	42,404	72,528,151	76.36	2,084	3,747,505	80.28	40,320
Feb.	32,865	58,733,370	79.78	1,430	2,280,168	71.17	31,435
Mar.	42,152	70,589,581	74.76	1,836	2,735,234	66.51	40,316
Apr.	34,544	48,742,589	62.99	1,128	1,605,093	63.58	33,416
May	29,756	36,896,080	55.35	1,052	1,558,987	66.17	28,704
June	24,900	34,498,561	61.85	1,105	1,371,217	55.41	23,795
July	35,820	33,061,470	41.20	1,554	1,743,854	50.09	34,266
Aug.	27,400	24,670,752	40.21	1,318	1,339,563	45.38	26,082
Sept.	37,112	32,625,022	39.02	1,437	1,519,870	47.20	35,675
Oct.	29,333	25,300,483	38.50	1,366	1,316,270	43.02	27,967
Nov.	38,925	34,661,631	39.97	1,482	1,320,461	42.00	37,443
Dec.	37,754	33,261,366	39.33	1,904	1,841,305	43.16	35,850
	413,338	505,817,807	54.63	17,671	22,470,583	56.77	395,667
1927:							
Jan.	43,340	36,753,719	37.99	1,526	1,444,734	42.22	41,814
Feb.	28,338	23,110,257	36.41	2,451	2,277,297	41.47	25,887
Mar.	35,514	28,693,026	36.07	2,763	3,249,665	52.50	32,751

U. S. Consumption of Crude Rubber

(Rubber Association of America statistics raised to 100 per cent—All figures in long tons)

	Figures on Monthly Basis: 1921	1922	1923	1924	1925	1926	1927
January	5,045	16,938	30,106	29,058	29,638	32,196	31,518
February	5,955	14,767	30,149	25,736	29,761	31,136	30,137
March	9,190	21,408	36,629	28,385	33,498	32,936	36,141
April	13,084	19,294	29,085	27,129	34,139	32,696	
May	16,023	23,246	36,155	25,845	35,322	29,364	
June	16,142	31,713	24,272	22,753	35,822	28,598	
July	18,310	24,522	17,685	23,396	36,053	27,577	
August	23,649	29,361	20,359	28,982	35,909	34,533	
September	16,705	24,410	17,594	31,497	31,691	32,904	
October	16,814	26,881	21,321	31,520	29,047	29,836	
November	14,105	24,950	20,437	27,289	28,853	28,080	
December	15,482	25,070	21,902	27,199	28,748	26,293	
TOTALS	170,504	282,560	305,694	328,769	388,481	366,149	

Figures on Quarterly Basis: Quarter	1921	1922	1923	1924	1925	1926
Jan./Mar.	65,463	127,360	96,776	87,609	95,263	94,301
Apr./Jun.			89,493	75,674	104,099	87,109
Jul./Sept.	105,962	155,067	55,621	83,813	99,493	93,793
Oct./Dec.			63,617	92,656	85,789	83,212
Total	171,425	282,427	305,507	339,752	384,644	358,415

Note: The Rubber Association estimates its monthly rubber consumption figures to be 90% complete. Up until 1925 the quarterly figures were likewise estimated to be 90% complete; beginning with 1925 an estimate of 92% completeness has been used. These estimates have been used in raising the figures in this table to 100%. The quarterly figures are generally regarded as the most authentic; the monthly figures may be accepted as preliminary.

Rubber Invoiced to the U. S.

(Reported by American Consuls—Quantities in Long Tons)

During the Week Ended	From Br. Malaya	From Ceylon	From Dutch East Indies	From London & Liverpool	Total
Feb. 19	4,284	835	1,209	720	7,048
Feb. 26	5,071	45	1,827	570	7,513
Mar. 5	5,759	2,091	1,536	325	9,711
Mar. 12	6,146	1,852	1,968	198	9,664
Mar. 19	6,417	908	2,026	272	9,623
Mar. 26	5,800	1,014	1,638	493	8,945
Apr. 2	4,936	582	1,568	542	7,628
Apr. 9	5,536	584	805	1,295	8,220
Apr. 16	3,875	1,037	1,513	624	7,049
Apr. 23	5,548	1,099	1,241	475	7,463

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—*New York Market, in Cents per Pound*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31 Average
1925																															
Jan.	—	39	39⅝	—	39	39	39¼	38½	38⅝	38⅞	—	37⅞	36½	36⅝	36	35⅞	35¾	—	34⅞	34⅝	35	35⅛	36¼	36¼	—	35⅞	35⅞	35½	35	35⅝	36⅝
Feb.	—	35⅝	34⅝	34½	34½	34½	35⅝	—	35⅞	36⅞	35½	36⅝	35½	36	35	36⅞	36⅝	35⅝	36¼	36⅞	36⅞	—	—	37⅛	37⅝	37⅞	37⅞	38⅝	—	—	36
Mar.	—	38⅞	38⅞	38⅜	38⅞	39	39⅝	—	39⅞	40⅝	39⅝	40	40⅝	40	—	40⅝	40½	41	41¼	41⅞	41⅝	42⅛	42½	42⅝	43¼	43⅞	43⅞	43½	44¼	42¾	41
Apr.	41¼	41⅞	41⅞	—	46⅞	42⅜	42⅝	43⅛	43⅜	—	59	57	59¾	59⅞	60⅜	64¼	71⅝	72⅝	73⅞	74⅜	74⅝	75⅛	76¼	76⅝	77⅝	77⅞	78⅜	78⅜	78⅜	78⅜	78⅜
May	45	47¼	47⅛	46½	48⅝	50½	52⅜	52½	55⅜	59¼	75¾	78⅜	74⅞	110	105⅝	110⅝	117	116⅝	118⅞	121	117⅝	119	117⅝	112¾	112¼	107⅞	96⅝	93⅛	89¾	90	103⅜
June	69½	72	74⅜	75¾	75¾	74⅜	74⅜	74⅜	73⅜	74	99⅞	106⅜	76½	81½	80⅜	77¾	78½	80½	80½	83½	82½	93⅛	93⅛	89¾	85⅝	89⅜	85⅝	85⅝	87⅛	91⅛	88⅜
July	81⅛	81⅞	85⅝	—	88⅜	90½	95⅜	94⅜	94⅜	99⅞	106⅜	72½	81½	86½	92½	93⅜	93½	92¾	94¼	—	92	93⅛	99¼	90	89	98	99½	99⅛	101½	100¼	98
Aug.	94½	—	95⅛	88¾	85⅝	86⅜	81¾	79	78¾	71⅜	72½	76½	81½	80¾	77¾	93⅜	92¾	80½	83½	82½	92	93½	99¼	89	85¼	85¼	85¼	89⅜	91¼	91¼	88⅜
Sept.	88¼	87⅛	85	81¾	81¼	—	97½	97	80½	83	86½	92½	—	95½	97	99¼	99	78½	92¾	99	93⅛	99¼	99⅛	99	98	89	89	89⅜	91½	99¼	100¼	98
Oct.	91¼	91¼	92	—	94½	100¼	100¼	—	98½	101	99½	97¾	104½	105½	101	109	107	107	99	107	102	99¼	110½	109	108¼	108¾	108¾	108¾	107	104¾	104¾
Nov.	—	99¾	—	98⅜	98½	108¼	108	—	98½	99½	100¼	101¾	105½	—	99¼	90¼	93	88¼	86⅜	—	88¼	90¼	88⅝	88¾	—	—	—	91	93	91¼	91½
Dec.	106¼	108½	107¾	107¼	108¼	—	108	109	109¾	106	105⅞	105½	—	101	—	—	—	—	—	—	—	—	—	—	68	66½	67	69¼	70½	69	79½
1926																															
Jan.	—	—	—	87	87¼	85½	86½	87¼	87¾	—	88⅛	88¾	88¼	85⅛	84½	82½	75½	75½	75½	75¼	75	72	72½	—	68	66¼	67	—	—	—	62½
Feb.	67	67¼	66¼	66⅜	68	69	69	69	67	65	66	65½	61½	63	62	60	60½	59	60	61	61½	56	56	55	52	51¾	51	—	—	58½	59
Mar.	55	58	53	53⅞	53¼	57⅝	—	56	55½	61	60	63	61½	50½	48½	47⅞	47½	47	48	48½	47	49	61	61	60	59½	60	—	59½	58	58
Apr.	59	—	59	—	59	58	56½	56½	53	49	49½	51⅜	50½	48⅜	47⅞	47½	47	47	47½	48½	47⅞	47½	48	48	48	48	48	48	48½	49	51¼
May	48⅜	50	50	50¾	49¼	49¾	49¼	49½	—	49	49	48½	48⅜	47⅜	47½	47½	47	47½	47½	47½	47½	46⅜	46	46	45	45	45	43	42	43	47⅜
June	41⅞	42	41⅜	42	41½	—	41½	41½	43	41⅜	42	41⅞	—	43	43½	43	43	43	43	44	44	44	43½	43½	43	42	42	42	42	42	42½
July	42	42	42	37	—	41½	41½	41½	41½	41½	41½	41½	41	41	43	43	43	40	40	41½	41½	44	41½	41½	41	41½	41	41	42	39	41¼
Aug.	—	38¾	38½	—	37	38¾	39	40¼	38¾	37½	37½	37½	37½	38½	40¼	40	38	38	39	39	39½	41	39	39	39	39	39	39	39	39½	38½
Sept.	40¼	40¾	40¼	—	—	42¾	42½	42½	40¼	40¼	40¼	40¼	42½	40¼	43⅛	43	40½	42½	42½	42¾	42½	42¾	42¾	42¾	42½	42¾	42¾	42¾	42½	42½	41
Oct.	43	43	—	43¼	42¾	42¾	42¾	42¾	42½	42¾	—	42¾	42½	42½	42⅝	42¾	42¾	42¾	42¾	42¾	42¾	42½	42¾	42¾	42½	42½	42½	42½	42½	—	42½
Nov.	41¾	—	41	41¾	41¼	41½	41½	41½	41½	41¾	41¾	41¾	41¾	41¾	40¾	40⅝	40½	39	38	—	38	38	38	38	37¾	37	37	37	37	38½	38½
Dec.	36⅝	37⅛	37½	37½	—	37	37	—	37	37	37½	—	37½	37¾	37¾	38	38	38	38	38	38½	38½	38¾	39	—	—	—	39	38½	38¾	38½
1927																															
Jan.	—	—	38⅛	39	39¼	39¾	40¾	40⅛	—	40½	40¾	40¾	40	39¾	39⅝	39¾	39¼	38¾	38¾	38¾	38½	38⅝	—	38¼	38	38½	38½	38⅝	38	38	38¾
Feb.	37⅞	37⅞	37⅝	37½	37½	—	37⅝	37⅝	37⅞	58	37⅝	41⅝	41⅝	41¼	41¾	41¾	41¾	41½	41½	41½	41¾	41½	39	39	39	39⅜	—	39½	—	41	41¼
Mar.	39¾	39⅝	40	40¼	41	41	40¾	40⅝	40⅝	40⅝	41½	41⅝	40¾	40¾	40¾	40¾	40¾	41¼	41¼	41¼	41¼	41¼	40¾	40¾	41¼	41¼	41¼	40½	41	40½	41
Apr.	41⅝	41⅛	41⅛	41	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝
May	—	40½	40¾	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
June																															
July																															
Aug.																															
Sept.																															
Oct.																															
Nov.																															
Dec.																															

Average Spot Closing Prices--Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1921

Year	*Cents*	*Year*	*Cents*	*Years*	*Cents*
1910	206.60	1914	65.33	1918	60.15
1911	141.30	1915	65.85	1919	48.70
1912	121.60	1916	72.50	1920	36.30
1913	82.04	1917	72.23	1921	16.36

Average Monthly Price per Pound since 1922

Months	1922 *Cents*	1923 *Cents*	1924 *Cents*	1925 *Cents*	1926 *Cents*	1927 *Cents*
Jan.	18.82	32.73	25.86	36.71	79.50	38.75
Feb.	16.12	35.14	25.29	36.01	62.25	38.25
Mar.	14.53	34.21	22.83	41.00	59.00	41.04
Apr.	15.99	32.48	22.51	43.64	51.25	40.86
May	15.25	27.39	19.89	58.47	47.75	
June	15.11	26.88	18.81	77.26	42.50	
July	14.67	26.10	22.16	103.16	41.03	
Aug.	13.93	28.84	26.17	82.99	38.50	
Sept.	14.44	28.95	27.56	88.88	41.00	
Oct.	19.78	26.93	31.13	98.01	42.50	
Nov.	23.88	27.14	34.33	104.80	38.50	
Dec.	27.42	26.60	37.88	98.51	38.25	
Average for Year	17.50	29.45	26.20	72.46	48.50	

London Closing Prices of Ribbed Smoked Sheet

(In pence per pound)

Fifth Restriction Year—Third Quarter

Day	*May*	*June*	*July*	*Day*	*May*	*June*	*July*
1	—			16			
2	19⅝			17			
3	19⅝			18			
4	19¾			19			
5				20			
6				21			
7				**22**			
8				23			
9				24			
10				25			
11				26			
12				27			
13				28			
14				29			
15				30			
				31			

(The average price for the period for which daily prices are reported above is approximately 19.792 pence. The British Colonial Secretary has announced that only 60% of the standard production will be exportable from the restricted area during the next quarter if the price during the entire current quarter does not average at least 21 pence.)

Average Price in Previous Quarters

Quarter	1922-23	1923-24	1924-25	1925-26	1926-27
Nov.-Jan.	14.285	14.175	17.9983	46.709	19.265
Feb.-Apr.	16.858	12.917	19.356	28.103	19.696
May-June	14.242	10.974	38.469	21.001	
Aug.-Oct.	14.944	14.632	43.269	20.199	

Spot Closing Cotton Prices

(Middling Upland Grade—New York Market)

Recent Daily Price Per Pound

Day of Month	*April Cents*	*May Cents*	*Day of Month*	*April*	*May Cents*	*Day of Month*	*April Cents*	*May Cents*
1	14.40	——	11	14.40		21	15.30	
2	14.35	15.45	12	14.50		22	15.05	
3	——	15.85	13	14.50		23	15.25	
4	14.30		14	14.50		24	——	
5	14.35		15	14.50		25	15.35	
6	14.45		16	——		26	15.10	
7	14.40		17	——		27	15.30	
8	14.45		18	14.65		28	15.35	
9	14.45		19	14.60		29	15.30	
10	——		20	14.80		30	15.30	
						31		

Average Monthly Price Per Pound

Month	1925 *Cents*	1926 *Cents*	1927 *Cents*	*Month*	1925 *Cents*	1926 *Cents*	1927 *Cents*
Jan.	23.99	20.85	13.42	Aug.	23.72	18.57	
Feb.	24.70	20.60	14.10	Sept.	23.79	17.02	
Mar.	25.64	19.35	14.32	Oct.	21.77	13.14	
Apr.	24.54	19.13	14.75	Nov.	20.94	12.86	
May	23.41	18.92		Dec.	20.06	12.68	
June	24.13	18.57		Average for Year	23.45	17.53	
July	24.68	18.71					

Stock of Crude Rubber in the U. S.

(All Quantities in Long Tons)

At	ON HAND			AFLOAT			AND AFLOAT ON HAND		
End of	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	60,870	55,198	76,172	36,759	46,296	45,312	97,629	100,434	121,484
Feb.	54,109	58,035	91,186	41,475	46,935	42,166	95,584	104,970	133,352
Mar.	52,494	61,822	85,740	40,577	43,567	49,600	93,071	105,389	135,340
Apr.	50,143	55,261		53,465	41,905		103,608	97,166	
May	52,064	64,360		46,846	40,303		98,910	104,663	
June	50,997	60,460		51,202	40,907		102,199	101,367	
July	46,245	64,900		46,003	38,062		92,248	102,962	
Aug.	42,354	60,870		41,254	37,360		83,608	98,230	
Sept.	36,367	62,078		55,151	42,464		91,518	105,542	
Oct.	34,085	64,989		51,098	52,930		85,183	117,919	
Nov.	34,885	69,385		42,692	47,311		86,577	116,696	
Dec.	51,215	72,520		48,208	52,020		99,423	124,540	

(Rubber Association of America figures raised to 100%.)

Stock of Crude Rubber in London

(No. of tons in Wharves and Warehouses, including Latex)

At End of.	1920	1921	1922	1923	1924	1925	1926
January	19,300	56,573	67,232	73,498	57,460	27,172	9,994
February	18,329	59,439	67,623	70,483	56,732	23,425	10,004
March	18,969	63,913	66,670	63,438	55,647	18,104	13,750
April	20,072	68,759	68,637	58,770	54,559	12,949	18,951
May	20,921	70,403	70,146	54,439	51,615	5,895	20,896
June	22,517	69,408	71,597	51,050	51,115	5,318	23,894
July	25,346	71,065	71,515	49,937	52,073	4,258	27,727
August	30,674	73,211	72,112	48,427	49,700	4,619	30,764
September	35,504	72,175	70,977	54,523	44,011	5,453	35,077
October	41,743	69,229	68,536	58,891	37,523	5,086	42,141
November	45,550	70,786	68,548	60,074	33,593	3,869	44,057
December	50,652	69,792	72,299	60,246	29,488	5,697	48,921

At End of Recent Weeks

1926	First Saturday	Second Saturday	Third Saturday	Fourth Saturday	Fifth Saturday
August	27,972	29,313	29,678	30,159	——
September	30,764	32,011	33,249	34,587	——
October	36,065	37,226	39,650	41,080	42,141
November	43,045	43,299	44,553	43,859	——
December	44,395	46,349	47,324	48,382	——
1927					
January	48,948	50,756	52,484	53,662	54,786
February	55,740	56,939	56,962	58,659	——
March	59,945	61,516	61,300	63,167	——
April	62,634	63,861	65,033	65,511	67,034

Rubber in Singapore and Penang

(Stocks held by Dealers—Quantities in Long Tons)

End of	1925	1926	1927	*End of*	1925	1926	1927
Jan.	15,925	15,726	25,440	July	15,894	23,101	
Feb.	17,320	13,653	26,766	Aug.	17,251	23,362	
Mar.	17,261	18,389	27,844	Sept.	16,526	25,997	
Apr.	15,368	16,328		Oct.	15,346	26,614	
May	15,804	16,967		Nov.	19,788	25,486	
June	15,884	19,416		Dec.	18,840	26,443	

Rims Inspected and Passed in U. S.

(Tire & Rim Association Reports)

	Total	Per Cent Balloons		Total	Per Cent Balloons
1923	23,140,620	0.6	1925	25,997,849	66.8
1924	21,863,720	10.7	1926	24,199,613	78.8
1926			1927		
July	2,123,368	84.8	January	1,489,078	77.0
August	2,378,850	82.3	February	1,753,224	84.4
September	2,365,518	80.7	March	2,071,989	85.1
October	1,828,539	76.9	April		
November	1,210,472	77.0	May		
December	1,096,429	76.7	June		

U. S. Consumption of Gasoline

(In Barrels of 42 Gallons)

MONTHS	1924	1925	1926	1927
January	11,918,000	14,386,000	17,582,000	17,888,000
February	9,626,000	13,210,000	15,814,000	18,240,000
March	10,961,000	14,890,000	19,302,000	22,464,000
April	14,583,000	19,013,000	20,848,000	
May	15,889,000	20,459,000	24,213,000	
June	16,421,000	20,724,000	23,803,000	
July	18,610,000	22,879,000	24,752,000	
August	19,825,000	22,323,000	26,912,000	
September	16,871,000	20,177,000	22,929,000	
October	18,029,000	19,826,000	23,973,000	
November	16,607,000	18,024,000	20,618,000	
December	15,663,000	17,954,000	21,419,000	
TOTAL	185,003,000	223,865,000	262,165,000	

U. S. Tire and Tube Statistics

(All Figures Represent Thousands)

AUTOMOBILE CASINGS

Figures for Recent Years

	1922	1923	1924	1925	1926
Production	40,932	45,259	51,633	60,845	61,237
Shipments	39,987	45,204	50,120	59,262	59,002
Inventory[2]	6,132	5,772	7,427	8,142	10,456

Figures for Recent Months

	PRODUCTION			SHIPMENTS			INVENTORY		
	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	4,740	4,587	4,965	4,013	2,974	4,932	7,949	9,947	10,432
Feb.	4,908	4,865	5,095	3,924	3,436	4,458	8,928	11,164	11,075
Mar.	5,276	5,456		4,657	4,561		9,510	12,004	
Apr.	5,341	5,346		5,498	4,980		9,088	12,461	
May	5,467	5,023		5,954	5,211		8,611	12,343	
June	5,418	5,422		6,737	5,724		7,243	11,968	
July	5,587	4,950		6,298	6,337		6,421	10,592	
Aug.	5,607	5,872		4,760	6,744		7,261	9,732	
Sept.	5,007	5,706		4,569	6,040		7,681	9,318	
Oct.	4,505	5,103		5,580	4,544		6,670	9,917	
Nov.	4,229	4,324		3,671	3,733		6,955	10,297	
Dec.	4,760	4,683		3,601	4,718		8,142	10,456	

AUTOMOBILE INNER TUBES

Figures for Recent Years

	1922	1923	1924	1925	1926
Production	50,850	60,116	70,706	82,614	76,618
Shipments	49,673	59,072	68,016	81,004	71,591
Inventory[2]	7,643	8,425	11,052	11,313	16,200

Figures for Recent Months

	PRODUCTION			SHIPMENTS			INVENTORY		
	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	6,343	6,809	5,337	5,576	3,723	6,016	11,570	14,361	15,585
Feb.	6,339	6,825	5,658	4,971	3,736	5,120	13,023	17,090	16,075
Mar.	7,000	7,030		5,711	4,987		14,236	19,131	
Apr.	6,851	6,554		6,704	5,051		13,618	20,674	
May	6,846	6,149		8,040	6,304		12,501	21,141	
June	6,942	6,171		9,032	6,898		10,409	20,243	
July	7,544	5,729		9,140	8,569		8,635	17,267	
Aug.	7,618	7,424		6,923	9,579		9,271	15,462	
Sept.	7,254	7,590		6,665	7,762		9,950	15,312	
Oct.	6,612	6,208		7,845	5,474		8,726	15,929	
Nov.	6,266	4,852		5,406	4,045		9,491	16,604	
Dec.	6,999	5,277		4,991	5,463		11,313	16,200	

(1) Rubber Association of America figures, raised to 100%. The Association estimates its figures to be 75% representative or complete when issued and that basis has been accepted when preparing the statistics in this table.

(2) Held by manufacturers at end of period indicated.

Automobile Production

	Passenger Cars			Trucks		
	Total	United States	Canada	Total	United States	Canada
1920	1,883,158	1,799,522	83,636	322,039	311,531	10,508
1921	1,514,000	1,452,902	61,098	147,550	142,402	5,148
1922	2,397,827	2,302,923	94,904	251,434	244,285	7,149
1923	3,719,164	3,589,936	129,228	378,288	361,078	17,210
1924	3,262,764	3,144,999	117,765	378,106	360,625	17,481
1925	3,817,639	3,678,328	139,311	498,019	475,941	22,078
1926						
January	284,703	272,922	11,781	33,461	29,763	3,698
February	334,524	319,763	14,761	41,685	37,608	4,077
March	399,105	381,116	17,989	49,233	44,848	4,385
April	401,836	383,907	17,929	53,887	50,314	3,573
May	394,569	373,140	21,429	51,343	47,838	3,505
June	358,360	339,542	18,818	47,043	44,110	2,933
July	328,816	315,863	12,953	41,847	39,592	2,255
August	393,040	380,258	12,782	47,907	45,404	2,503
September	363,537	350,913	12,624	51,299	46,428	4,871
October	300,142	289,547	10,595	46,965	42,890	4,075
November	226,278	219,504	6,774	39,410	36,356	3,054
December	143,413	137,361	6,052	30,002	28,302	1,700
TOTAL	3,928,323	3,766,336	161,487	534,082	493,453	40,629
1927						
January	208,718	196,973	11,745	40,874	37,243	3,631
February	275,458	260,632	14,826	41,947	38,118	3,829
March	360,754	341,665	19,089	48,590	45,056	3,534
April						
May						
June						
July						
August						
September						
October						
November						
December						

Exports of Crude Rubber from Principal Producing Countries

(Figures in Long Tons)

	BRITISH MALAYA[1]								DUTCH EAST INDIES[2]						
	Gross Exports	*Gross Exports minus Imports*	*Imports*	*Ceylon[3]*	*India & Burma[3]*	*Sarawak[4]*	*British North Borneo[1]*	*Siam[4]*	*Java & Madura*	*Sumatra E. Coast*	*Other D.E.I.*	*Fr. Indo-China[1]*	*Amazon Valley[4]*	*All Other[5]*	*World Total[7]*
1923	252,016	70,432	181,584	37,112	6,416	5,705	4,237	1,718	32,938	48,402	43,422	5,606	19,127	7,856	404,123
1924	259,706	108,524	151,182	37,351	7,697	6,699	4,621	2,962	42,446	53,483	80,347	6,688	22,906	9,065	425,447
1925	316,825	158,022	158,803	45,684	10,082	8,413	5,424	5,394	46,643	62,678	119,271	7,881	24,079	13,797	508,149
1926:															
Jan.	30,452	10,237	20,215	4,058	1,273	416	472	289	4,397	6,277	8,081	915	1,697	1,805	49,895
Feb.	30,440	8,306	22,134	4,941	725	488	450	253	4,474	5,734	6,801	554	2,169	1,978	50,701
Mar.	35,012	14,800	20,212	5,708	1,113	792	561	418	4,865	5,612	11,880	573	2,395	1,899	56,028
Apr.	23,727	10,565	13,162	3,484	590	679	374	293	4,522	4,598	6,208	410	1,778	1,529	37,627
May	31,231	10,604	20,627	3,600	691	927	410	279	4,742	5,293	8,606	502	2,144	1,464	49,285
June	30,624	11,764	18,860	3,906	452	779	512	275	5,440	6,111	9,844	549	1,367	1,279	49,374
July	28,824	15,280	13,544	4,800	938	911	420*	439	4,929	5,522	12,864	1,521	1,246	1,148	48,282*
Aug.	34,625	13,595	21,030	5,246	521	890	420*	316	4,418	3,472	10,349	378	1,411	1,907	49,548*
Sept.	35,913	13,972	21,941	6,027	652	888	420*	457	4,326	6,757	10,971	681	1,463	822	55,405*
Oct.	39,367	15,203	24,164	6,026	635	805	420*	385	4,193	6,988	11,513	661	1,616	1,023	58,429*
Nov.	34,302	12,201	22,101	4,687	1,111	685	420*	285	4,060	5,746	8,998	718	1,780	1,259	51,850*
Dec.	36,811	14,716	22,095	6,361	1,177	895	420*	338	5,025	7,106	12,333	790	2,492	714	59,746*
	391,328	151,243	240,085	58,844	9,878	9,155	5,299*	4,027	55,391	69,216	118,448	8,252	21,538	16,017	616,170*
1927:															
Jan.	34,946	14,995	19,951	6,697	922	959	500*	304	4,184	6,705	10,541	941			
Feb.	27,528	11,607	15,921	3,571	1,000*	522		360	4,707	6,526	10,634	675			
Mar.	41,346	17,464	23,884	7,111	1,000*	997		432				733			
Apr.															
May															
June															
July															
Aug.															
Sept.															
Oct.															
Nov.															
Dec.															

(1) Malayan net exports cannot be taken as production since imported rubber is largely wet native rubber which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 115 tons in 1923, 1,117 in 1924, 3,618 in 1925, and 3,263 in 1926. (2) Ceylon Chamber of Commerce statistics until 1926; rubber exported as latex is not included—such shipments were equivalent to 18 tons in 1923, 93 tons 1924, 6 tons 1925, and about 20 tons in 1926. (3) Official statistics. (4) Imports into Singapore and Penang. (5) Exports from "Other D.E.I." are chiefly wet native rubber which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 2,342 tons in 1923, 1,008 tons 1924, 2,239 tons 1925, and about 60 tons in 1926. In 1926, 196 tons of latex sprayed rubber and 125 tons of ficus rubber were exported from Java and Madura. (6) Calculated from official import statistics of principal consuming countries; viz., United States, United Kingdom, France, Germany, Italy, Belgium, and Netherlands. (7) This total includes the third column for British Malaya, "Gross Exports minus Imports," and all the figures shown for the other territories. *Figure is provisional; final figure will be shown immediately it becomes available.

Net Imports of Crude Rubber into Principal Manufacturing Countries

(Long Tons)

	United States	*United Kingdom*	*France* (abd)	*Germany*	*Canada* (ac)	*Japan* (ac)	*Italy*	*Russia* (ce)	*Australia* (cf)	*Belgium* (d)	*Netherlands*	*Sweden* (abcd)	*Norway* (abc)	*Denmark* (abd)
1919	236,977	42,671	19,951	5,584	8,770	10,688	9,894	75	733	3,995	2,771	2,022	437	673
1920	248,762	56,844	15,868	11,890	11,912	6,015	6,123	62	1,040	3,840	5,510	1,567	241	479
1921	179,678	42,087	16,981	21,920	8,248	22,981	3,906	165	554	1,705	1,022	813	178	251
1922	296,267	11,724	27,644	27,546	9,366	16,449	6,430	2,453	2,649	172	−3,807	1,248	321	87
1923	300,372	12,700	31,067	18,519	13,299	17,181	8,489	4,506	1,631	2,184	792	1,391	448	354
1924	317,747	−11,550	34,488	22,727	14,420	19,612	8,764	824	3,127	2,688	−807	1,781	669	473
1925	381,815	4,061	36,911	33,937	19,825	12,743	11,412	7,088	4,217	2,930	875	1,690	701	440
1925:														
January	31,736	−284	2,147	4,303	1,432	797	552	333	192	331	109	164	64	16
February	23,717	−2,492	3,529	3,690	1,278	658	908	1,000	338	275	88	136	145	37
March	31,727	−3,396	3,924	2,784	2,349	689	1,463	1,083	357	373	56	183	77	71
April	31,376	−2,961	3,069	3,574	1,397	719	817	535	314	97	181	149	47	22
May	35,729	−8,650	3,223	3,834	1,532	863	1,060	1,999	385	228	47	126	47	16
June	30,371	619	2,387	3,239	1,681	2,095	1,506	59	378	329	120	97	43	74
August	32,281	3,825	1,109	2,942	1,582	786	650	16	341	176	28	114	45	24
July	31,177	2,204	1,827	2,606	1,613	813	631	85	297	169	76	119	53	35
September	25,213	5,369	4,633	2,667	1,202	936	939	234	429	283	136	102	54	20
October	33,519	1,203	3,039	2,325	1,799	1,060	914	21	243	255	60	159	38	38
November	36,150	2,466	4,654	1,260	1,712	2,140	1,157	190	512	226	−12	219	55	52
December	38,819	6,158	3,370	713	2,248	1,187	815	1,533	431	178	−14	122	33	35
1926:														
January	40,345	6,886	3,170	703	2,188	892	760	332	358	76	154	123	46	51
February	31,435	3,114	3,513	1,113	1,881	741	1,041	643	432	143	89	171	82	94
March	40,316	8,907	4,790	1,342	2,079	864	1,037	832	469	129	227	213	81	55
Apr.	33,416	8,275	4,834	1,781	1,624	1,868	865	402	431	71	93	204	27	23
May	28,705	6,773	2,937	1,848	1,239	1,010	705	200	386	186	241	110	24	47
June	23,795	5,894	2,327	1,655	1,188	1,465	1,070	983	546	269	214	178	20	34
July	34,266	6,768	2,603	2,202	1,552	1,447	800	132	586	295	480	195	34	27
Aug.	26,081	7,327	2,819	2,110	1,888	1,284	796	655	1,159	303	596	199	52	55
Sept.	35,675	8,843	2,900	2,029	1,355	1,922	819	472	1,125	283	430	159	43	27
Oct.	28,110	8,082	2,962	2,423	1,865	2,396	645	585	889	301	2	210	63	43
Nov.	37,673	9,247	3,194	3,007	1,548	3,380	832	568	802	194	−18	179	65	50
Dec.	35,850	4,749	3,341	2,562	1,846	856	439	725		248	157	184	122	69
	395,667	84,865	39,390	22,775	20,253	18,125	9,809	6,529		2,498	2,665	2,125	609	575

a—Including gutta percha. b—Including balata. c—Reexports not deducted. d—Believed to include scrap and reclaimed rubber. e—Russian statistics are exports from United Kingdom only to Russia. f—Australian annual statistics including 1924 are exports to Australia from Malaya, Ceylon, Dutch East Indies and United Kingdom; monthly figures and total for 1925 are exports from Malaya, Ceylon, and Java only. −Minus sign, reexports in excess of imports. *All statistics from original official trade returns.*

REVIEW DESK

STANDARDS YEARBOOK, 1927. Compiled by The Bureau of Standards, Department of Commerce, Washington, D. C.

In order to explain the nature of this book we quote from the letter of submittal written by George K. Burgess, director of the Bureau of Standards, to Herbert Hoover, Secretary of Commerce:

"The Standards Yearbook represents an effort to present an adequate picture of the diversification and ramification of the standardization movement which has spread through the world with astonishing vitality during the 25 years that have elapsed since the establishment of the National Bureau of Standards. It contains outlines of the activities and accomplishments of not only this bureau and other agencies of the Federal Government and the States and municipalities, but also of the American societies and associations of which standardization is a major or very important activity. Descriptions and illustrations are presented of all fundamental national standards of the United States."

The fourth chapter of the book, under the head of "Organic and Fibrous Materials," is of interest to the rubber industry. Here is briefly outlined some of the experiments of the Bureau with rubber, pilot balloons, tires and rubber substitutes. The Bureau is at present cooperating with the Continental Mexican Rubber Co., in a study of the properties of guayule rubber. By improved processes in the extraction of this material from the shrub, quantities of crude rubber have been produced with properties approaching those of plantation Hevea rubber.

The Standards Yearbook, which will hereafter be published annually, contains 392 pages, is bound in cloth and sells for $1.00 through the Government Printing Office, Washington, D. C.

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COOPER HEWITT WORK LIGHT. Published by Cooper Hewitt Electric Co., Hoboken, N. J.

Industrial lighting, not as a group of lighting units, but as the installation of a system, is the subject of this catalog just issued by the Cooper Hewitt Electric Co. The catalog is prepared in such a way as to interest the plant executive, production man or engineer, and contains, in addition, many photographs of factories where the Cooper Hewitt lighting system is in operation. One of these photographs shows a room in the Century Rubber Works at Cicero, Ill. It is pointed out that a careful lighting system is particularly desirable in this industry due to light absorption of dark rubber making the intensity at the working points usually low.

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LE CAOUTCHOUC DURCI. By A. D. Luttringer, editor-in-chief of "*Le Caoutchouc et la Gutta Percha.*" Published by A. D. Gillard, editor of Encyclopedie du Caoutchouc et des Matieres Plastiques. Paris.

The twenty chapters of this book contain material in the study of hard rubber which heretofore has been available only in special periodicals. The properties of hard rubber are discussed and with subsequent chapters on chemical analysis, mechanical and electrical tests applicable to the product and the raw materials, including ebonite dust. A second section of the book is devoted to the manufacture of ebonite sheet, rods and tubes, production of molded ebonite goods, etc. The volume is issued in a series of similar volumes, which, when the series are completed, will form an encyclopedia of the rubber and plastic material industries. This latest addition to the series has received much praise abroad and may safely be recommended to those in this country who are interested in hard rubber.

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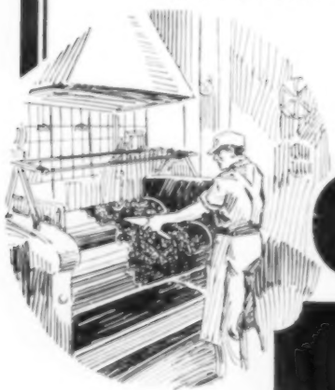

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